CECTEK

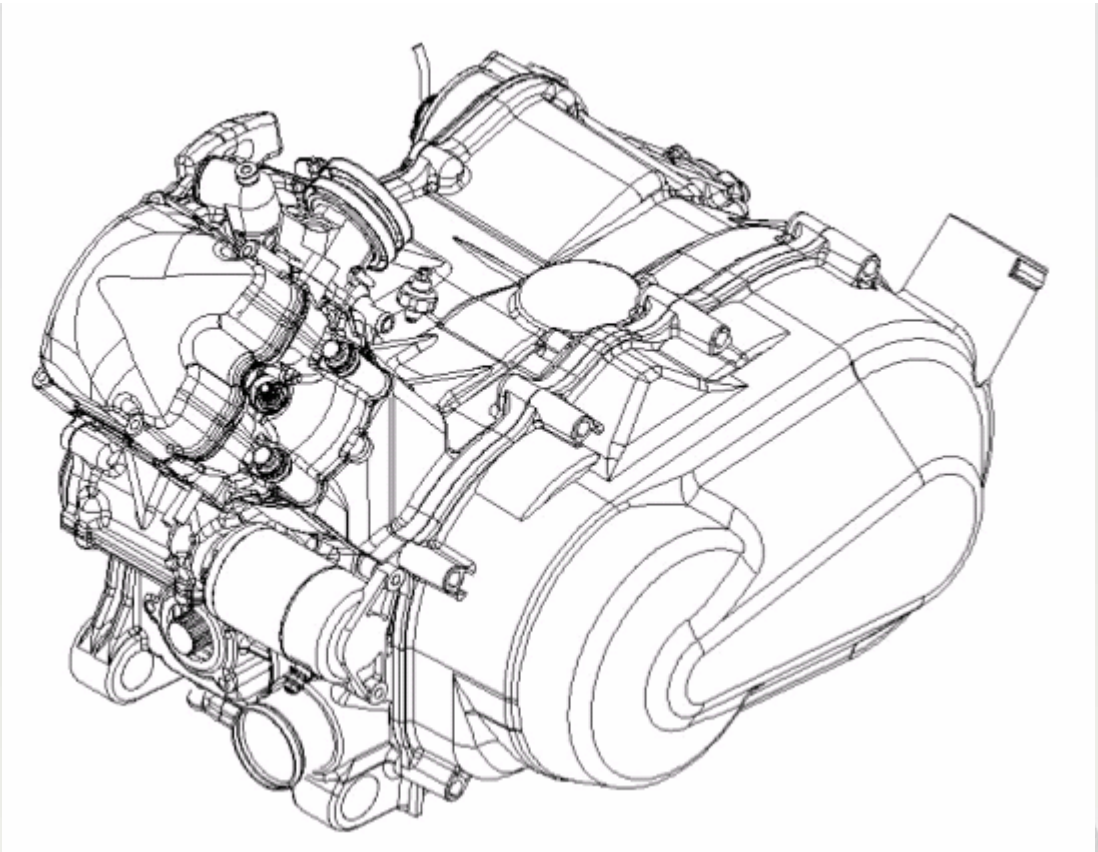
KINGCOBRA / ESTOC

SERVICE MANUAL V1.3

TOPIC

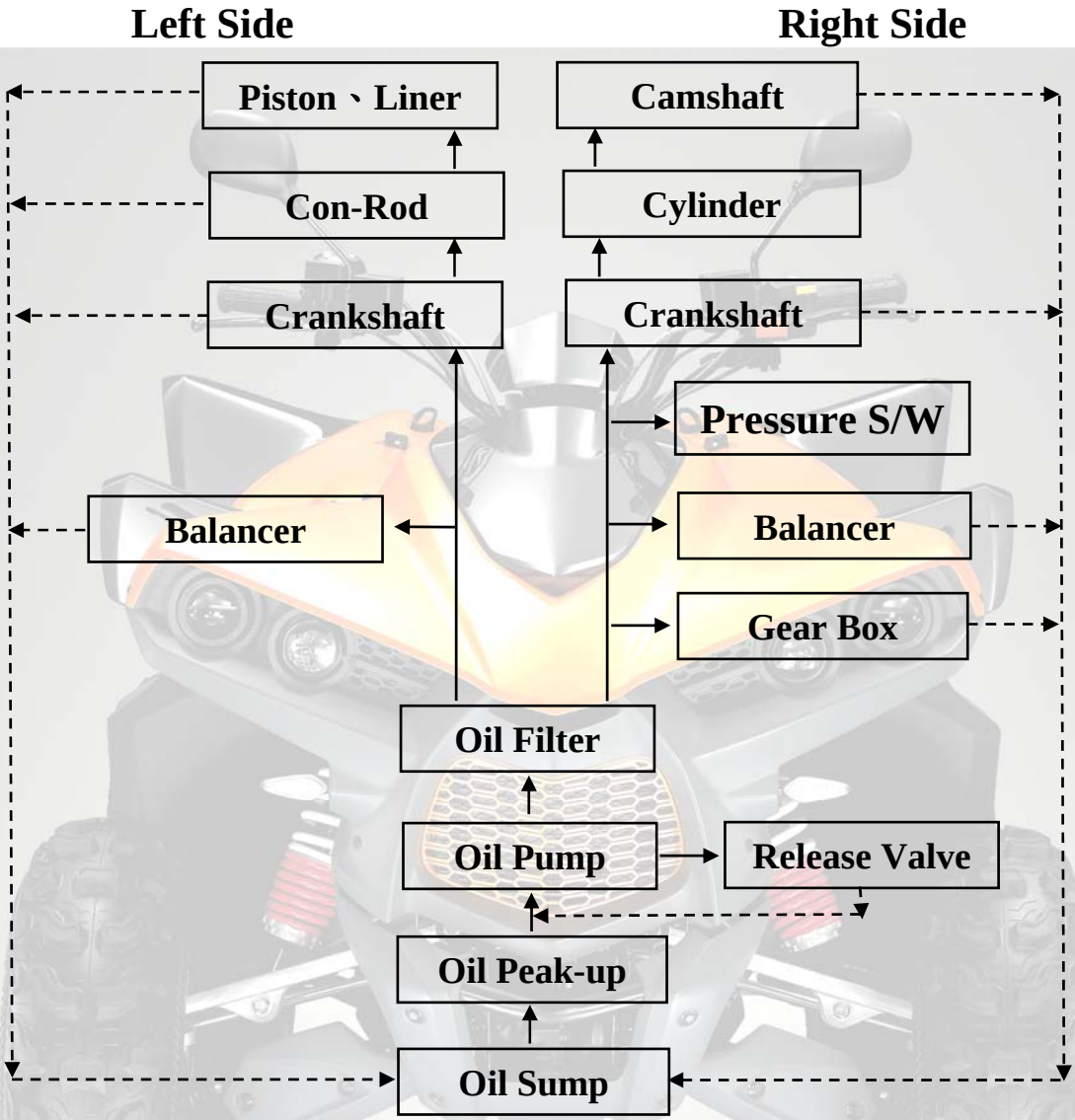
POWER TRAIN

Engine Specification



Type：4 Stroke / Single Cylinder / SOHC / 4 Valves
Displacement：497cc
Bore x Stroke：ø90mm x 78mm
Compression Ratio：10.0
Max. rev.：7500rpm
Transmission：CVT / V-belt
Emission：2002 / 51 / EC
Weight：67kg

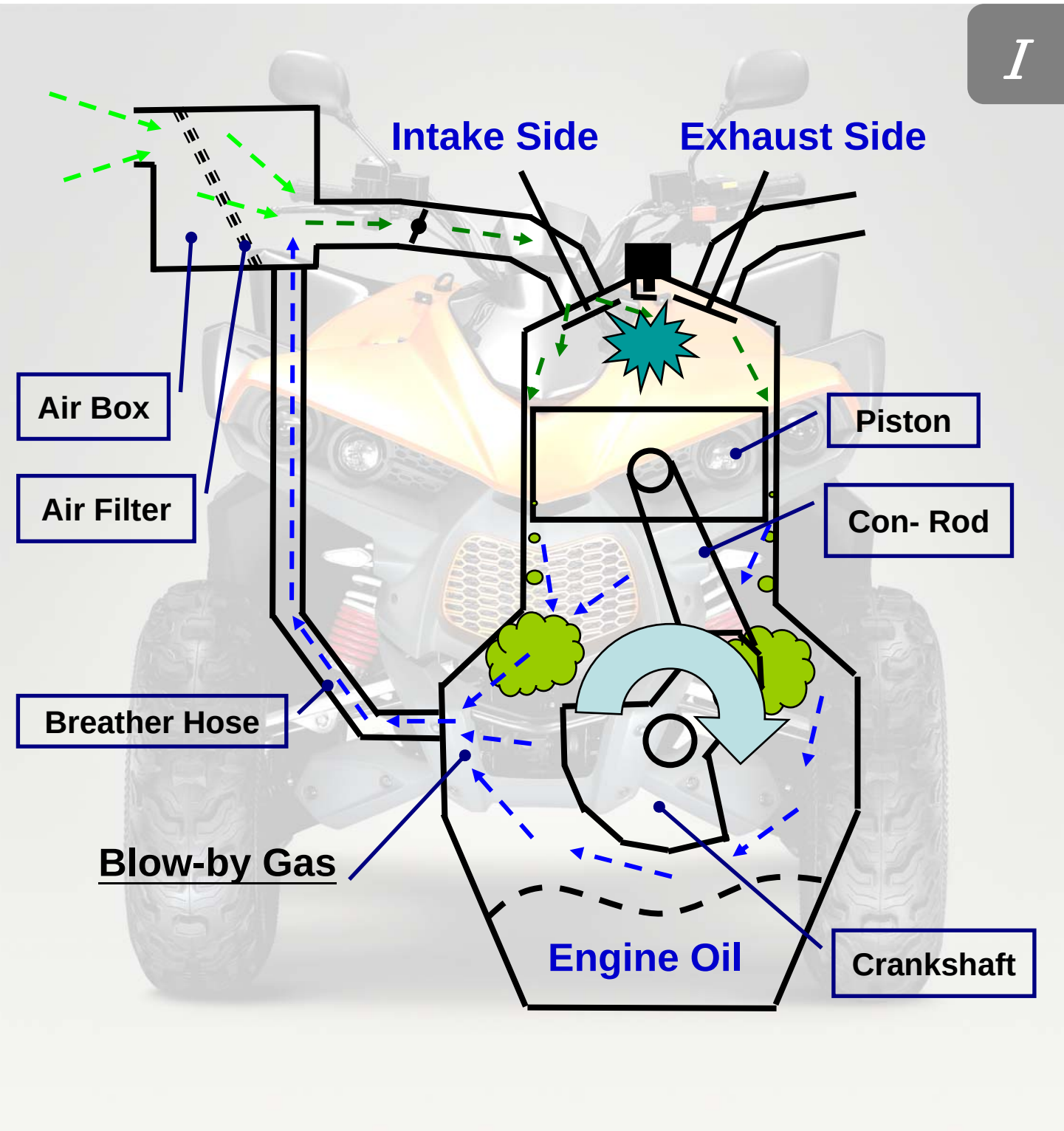
Engine Lubrication System



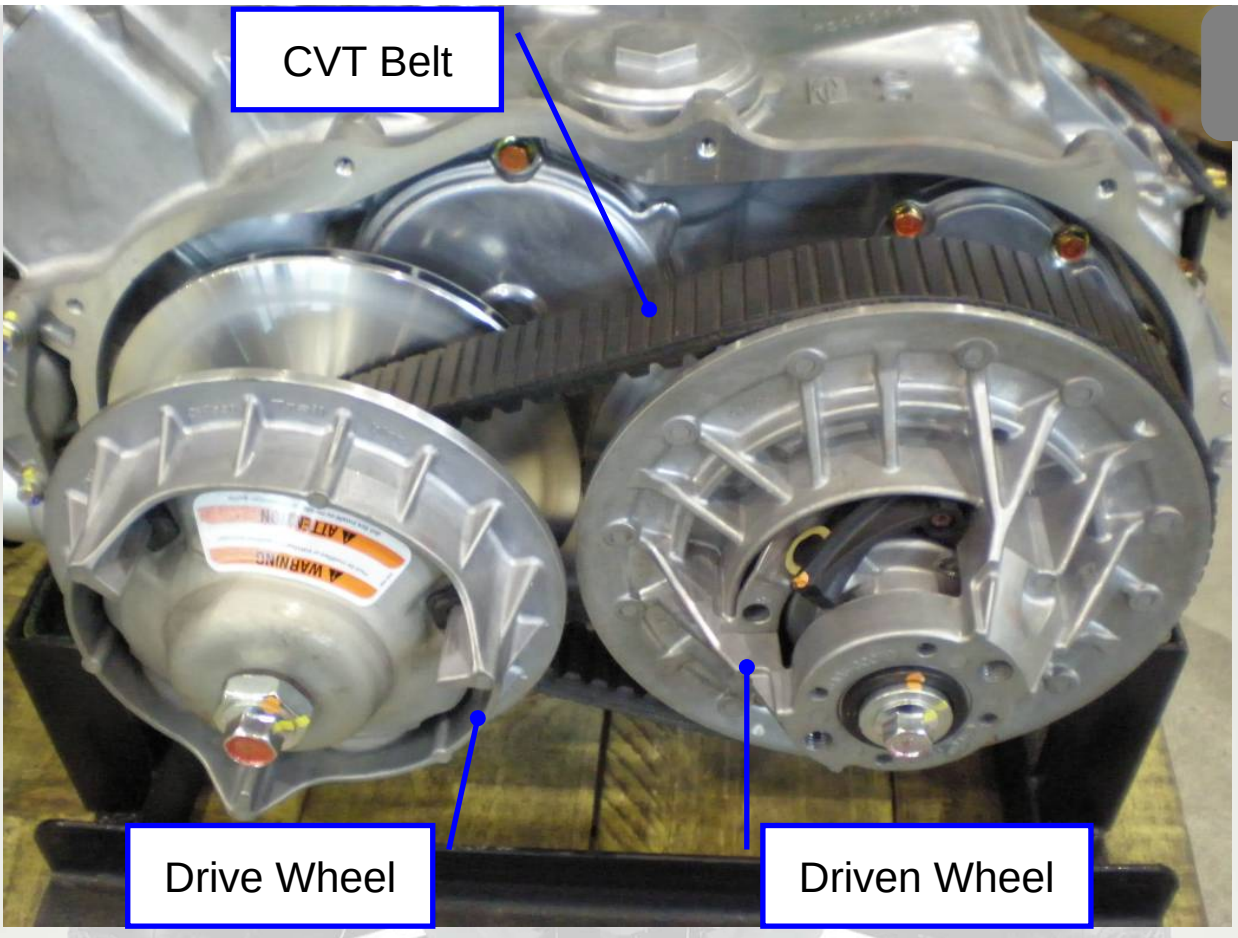
Lubrication：Wet Sump
Oil Pump：Rotor Type
Oil Filter：Paper Type
Oil Type：10w / 40
Oil Volume：3.0L / 3.5L (Replace Filter)
Pressure Release：4.5 kg/cm^2
Pressure S/W：0,2 kg/cm^2

Oil Inlet：
Oil Return：

Engine Breather System

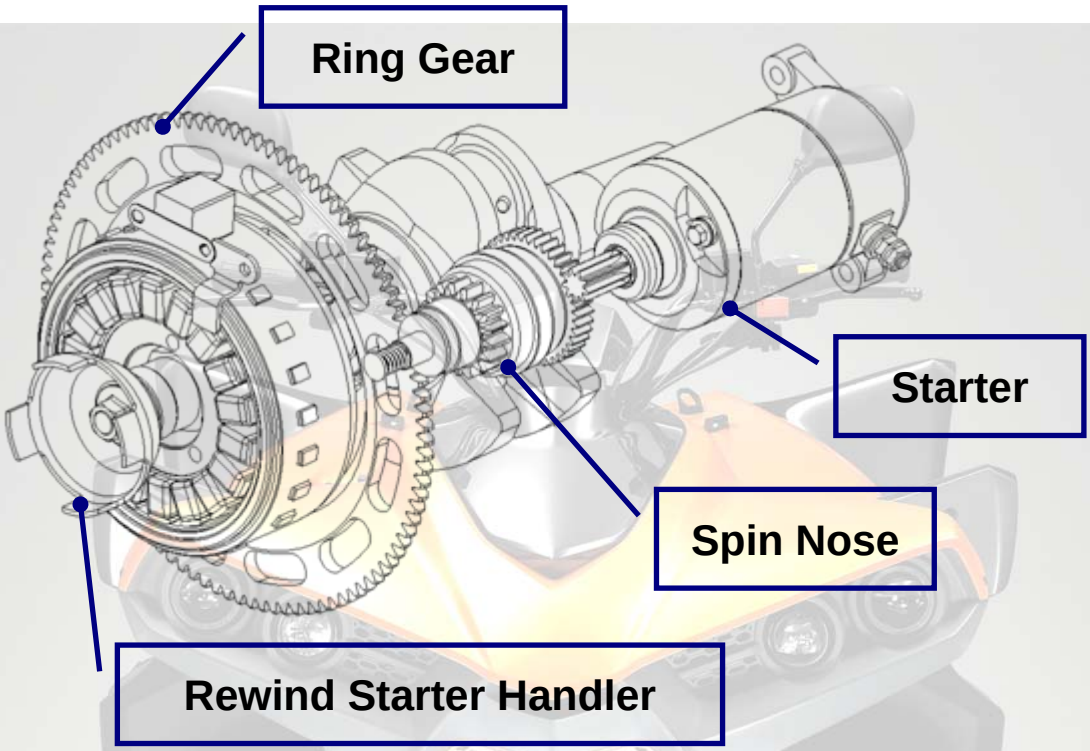


CVT System



CVT Belt Type：DAYCO 5324
Drive Wheel Tightening Torque：40~45Nm
Driven Wheel Tightening Torque：120Nm
Ratio：0.316(min)~1.581(max)
Engine Speed Limit：7500rpm

Start System

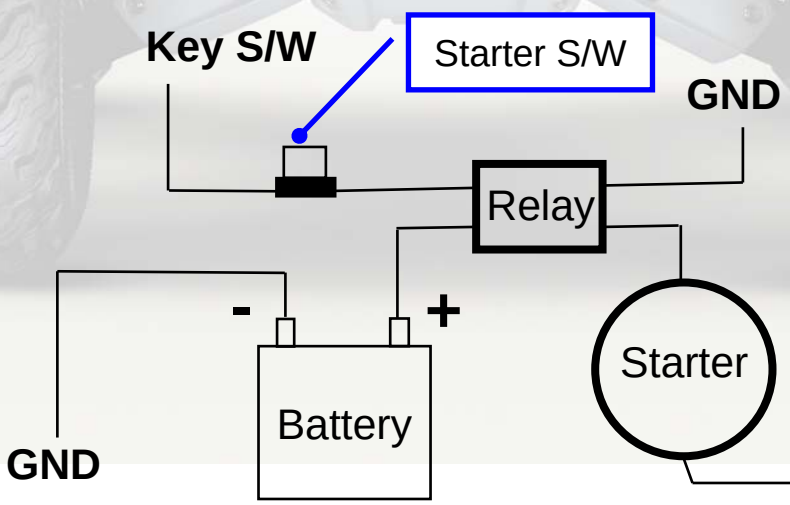


Starter Output：0.7KW

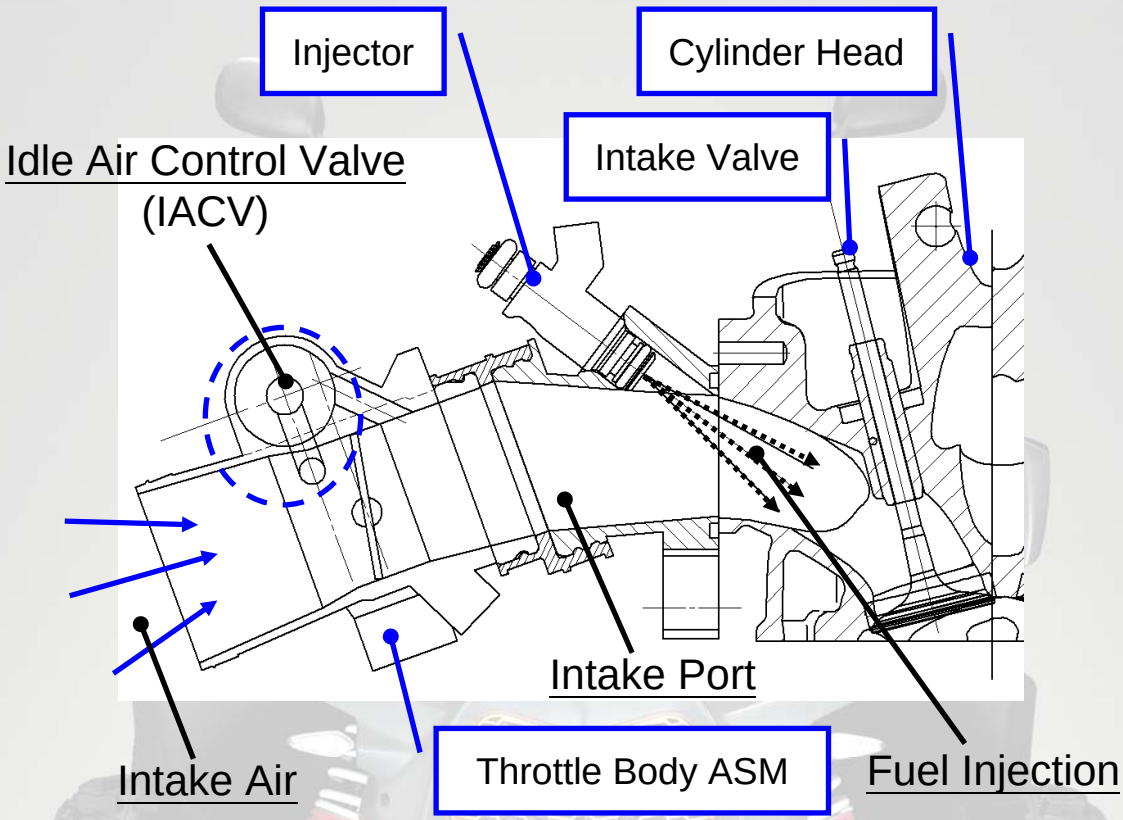
Operation Voltage：12V

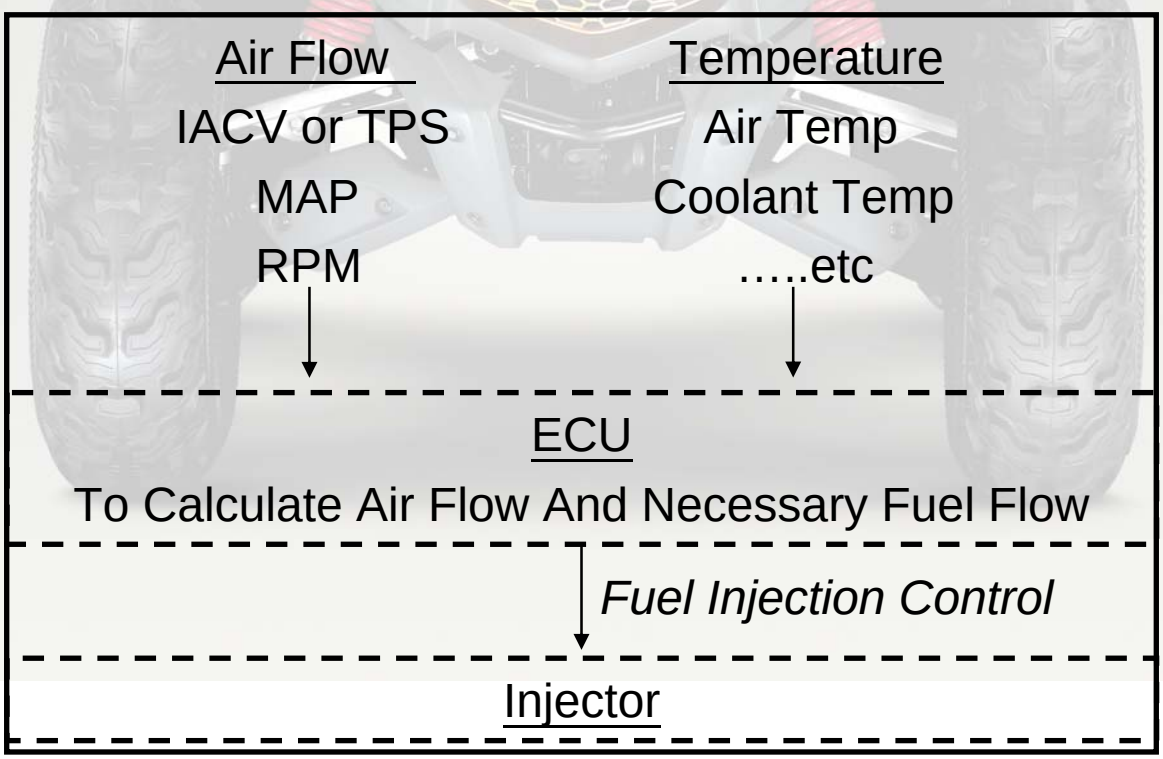
Temperature Range：-10 ~ +120 ℃

Starter Circuit Diagram：

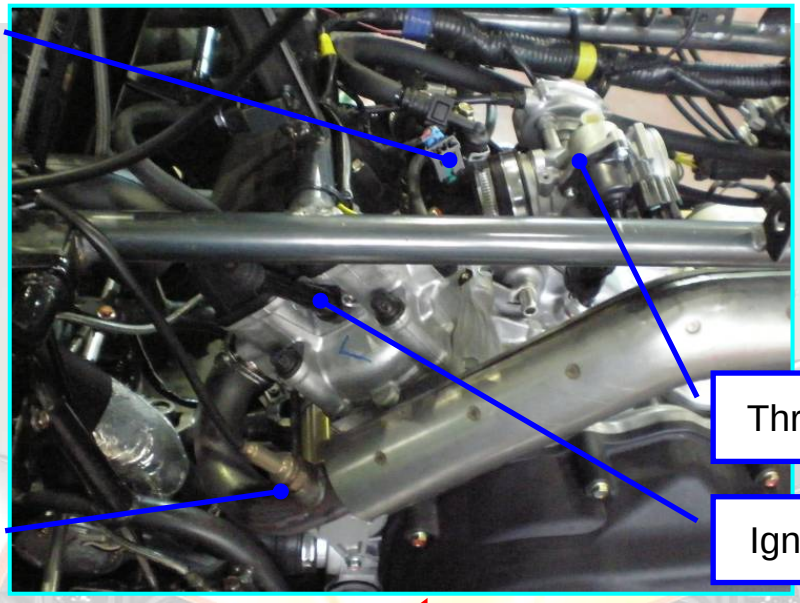


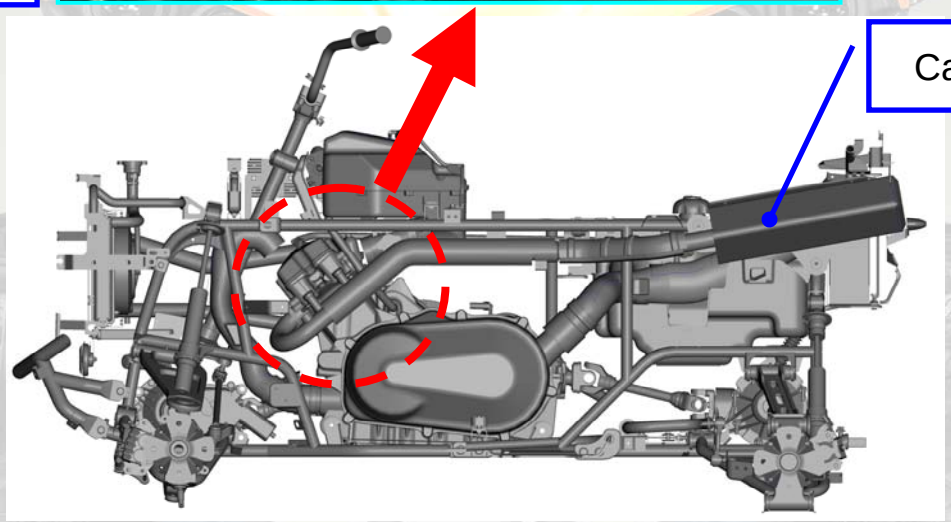
Injection System





Emission Control System





Emission Relational Part：

ECU / Throttle Body ASM / Spark Plug / Ignition Coil ASM / O2 Sensor / Catalyst

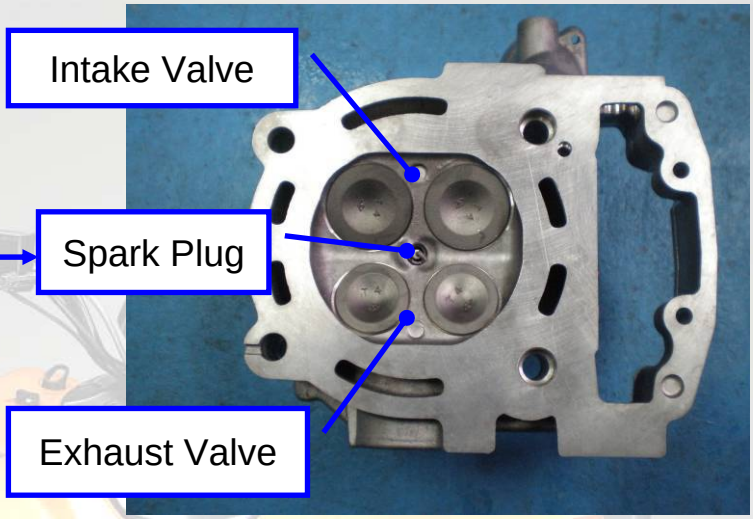
Catalyst：100 cells/in2

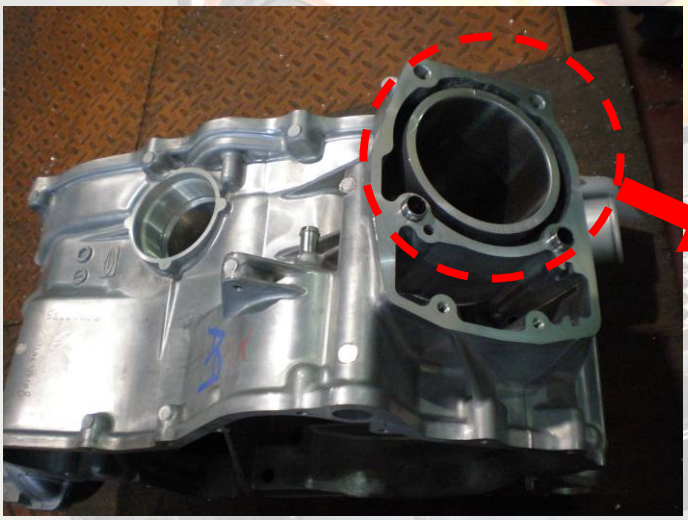
Catalyst Volume：116cc

Emission：Updated 2002 / 51 / EC

Cylinder Head / Block

Spark Plug





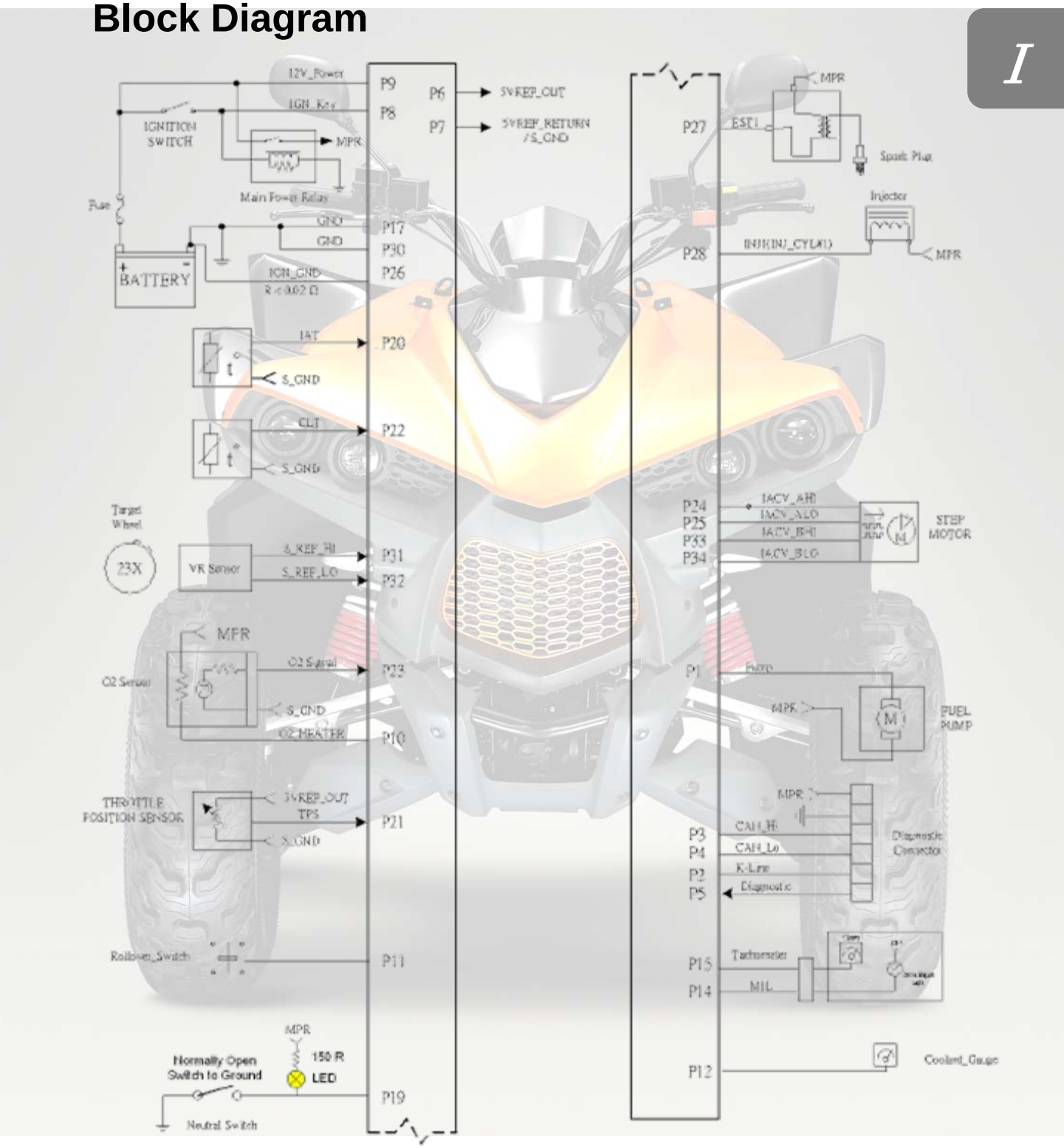
Cast-in Liner

Cylinder Head ASM：Aluminum Alloy < AC4B+T6 >
SOHC / Chain Drive / 4 Valves

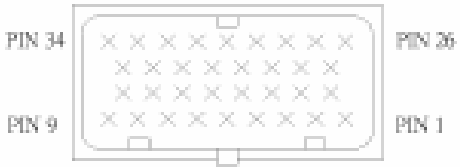
Spark Plug Type：Champion PRG7C

Cylinder Block ASM：Liner Material < FC250 >
Aluminum Alloy < ADC12 >

Block Diagram



CONNECTOR:
A. ON BOARD CONNECTOR: AMP 4-1437290-0

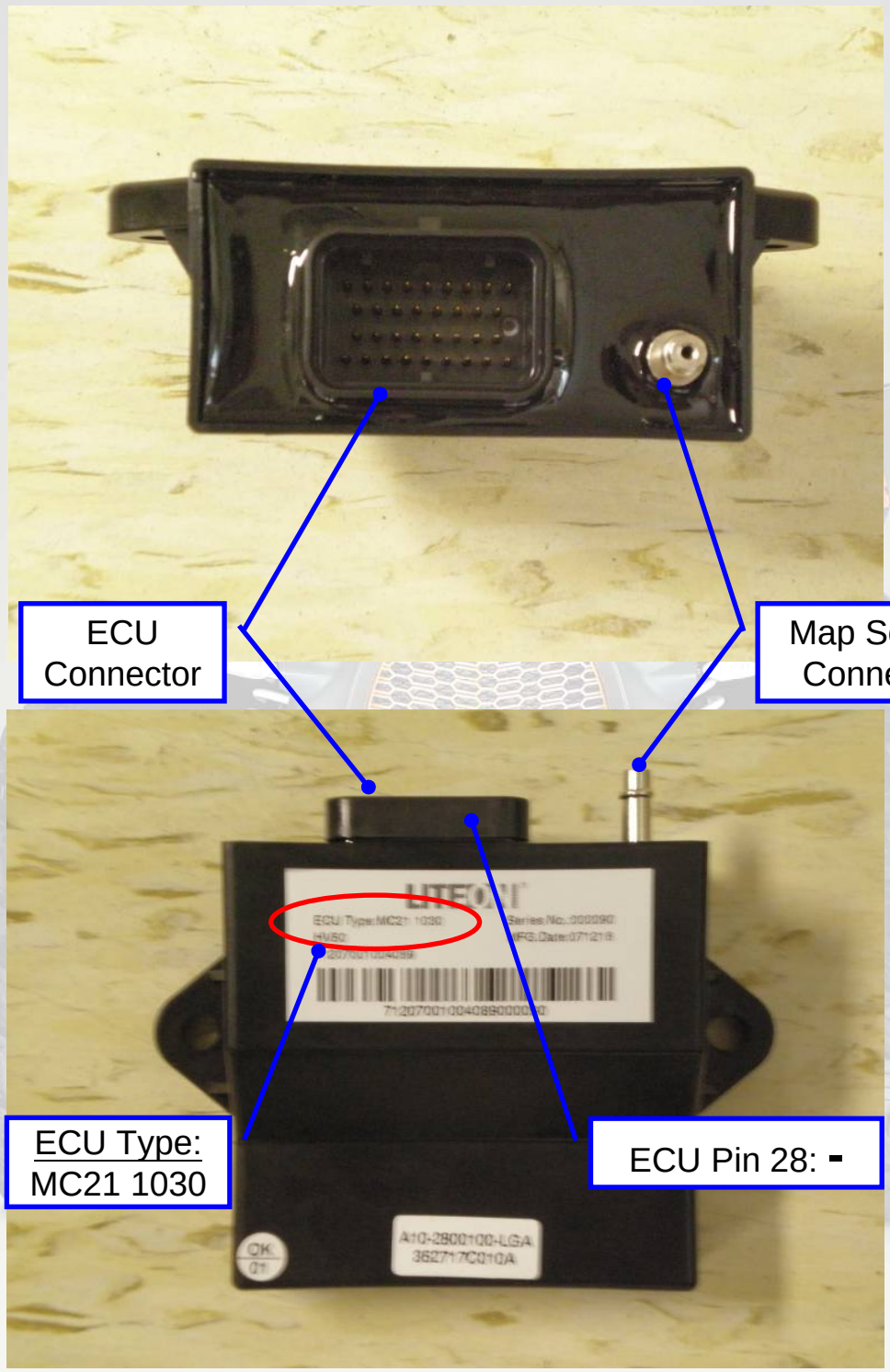


ECU connector
viewed from harness side

Pin Assignment

Pin Number	Pin def	Operation Voltage			Operation Current(A) at Voltage(V)	
		Min	Normal	Max	Max	
		V	V	V	mA	V
1	PUMP	9	12	16	4000	16
2	K-LINE	0	N/C	16	50	16
3	CAN_Hi	0	N/C	4.5	100	4.5
4	CAN_Lo	0	N/C	2.25	100	2.25
5	Diagnostic	0	N/C	16	0.5	16
6	5VREF_OUT	4.81	5	5.19	50	5.19
7	5VREF_RETURN / S_GND	N/C	N/C	N/C	N/C	N/C
8	IGN_KEY	9	12	16	500	16
9	12V Power	9	12	16	1000	16
10	O2_HEATER	9	12	16	2000	16
11	Rollover_Switch	0	N/C	16	0.5	5.19
12	Coolant_Gauge	9	12	16	500	16
13	NA	N/C	N/C	N/C	N/C	N/C
14	MIL	9	12	16	500	16
15	Tachometer	9	12	16	500	16
16	NA	N/C	N/C	N/C	N/C	N/C
17	GND	N/C	N/C	N/C	N/C	N/C
18	NA	N/C	N/C	N/C	N/C	N/C
19	Neutral_Switch	0	N/C	16	0.5	5.19
20	IAT	0	N/C	16	5	5.19
21	TPS	0	N/C	16	5	5.19
22	CLT	0	N/C	16	5	5.19
23	O2 Signal	0	N/C	16	5	5.19
24	IACV_AHI	9	12	16	250	16
25	IACV_ALO	9	12	16	250	16
26	IGN_GND	N/C	N/C	N/C	N/C	N/C
27	EST1	9	12	16	13000	16
28	INJ1	9	12	16	2000	16
29	NA	N/C	N/C	N/C	N/C	N/C
30	GND	N/C	N/C	N/C	N/C	N/C
31	S_REF_Hi	0.6	12	80	250	80
32	S_REF_Lo	0.6	12	80	250	80
33	IACV_BHI	9	12	16	250	16
34	IACV_BLO	9	12	16	250	16

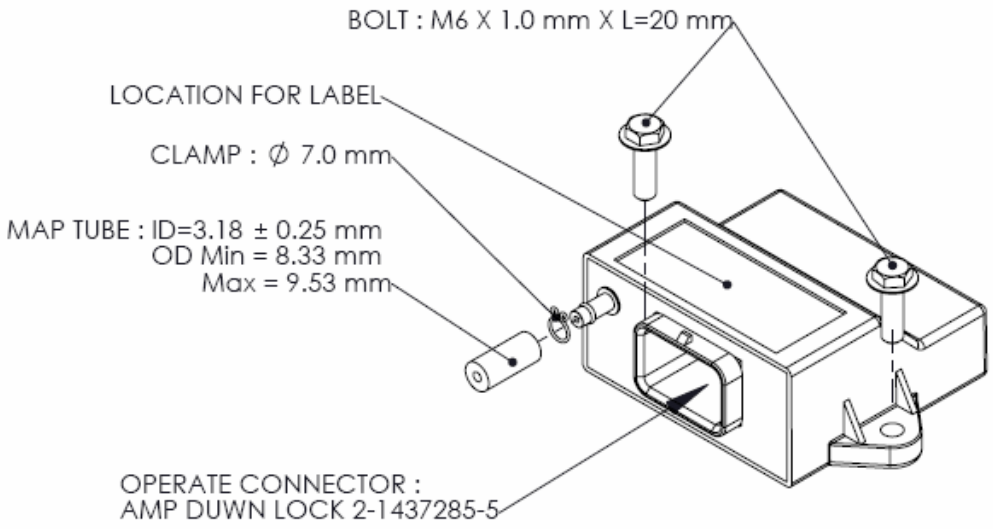
ECU


ECU
Connector
Map Sensor
Connector
ECU Type:
MC21 1030
ECU Pin 28: -

Part Introduction

ECU Type：MC21 1030

Assembly：



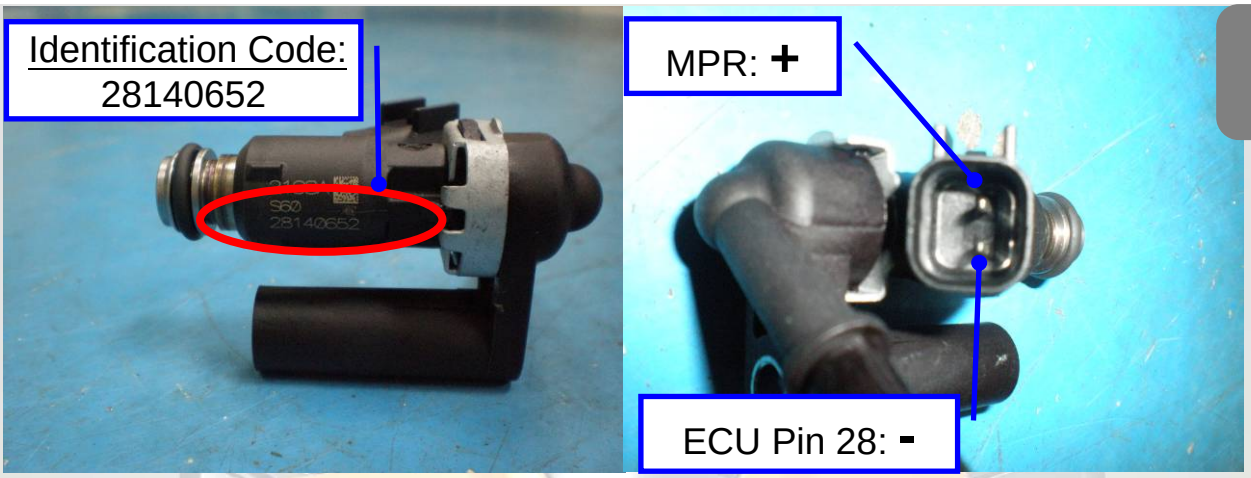
Electrical Characteristic

Operation Voltage Range：9~16V

Storage Temperature Range：-40~+70℃

Operation Current：＜500mA

Injector

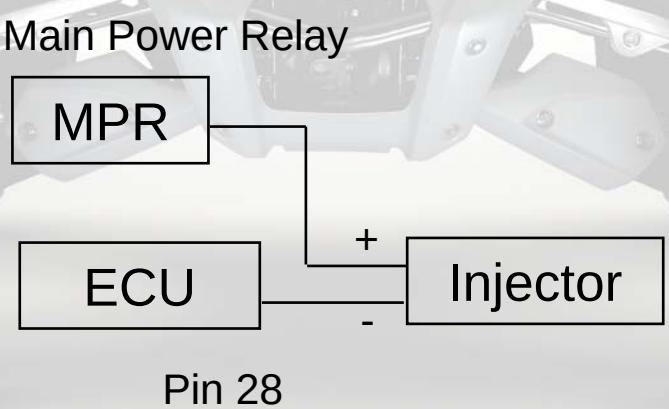


Part Introduction

Identification Code：28140652

Injector Holes：4ea

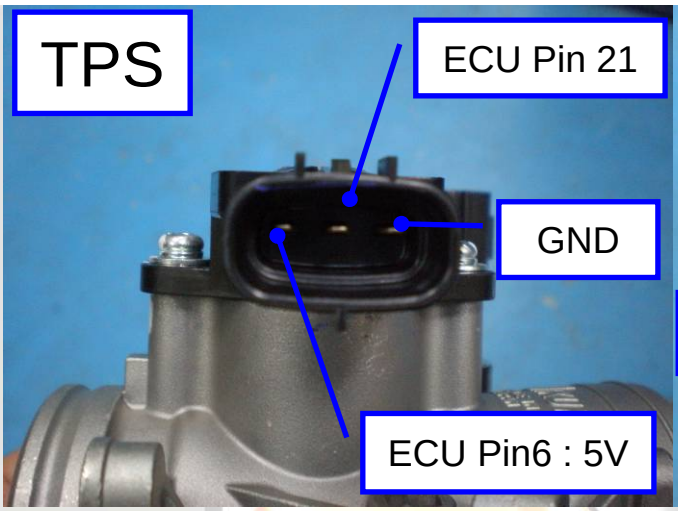
Circuit Diagram：

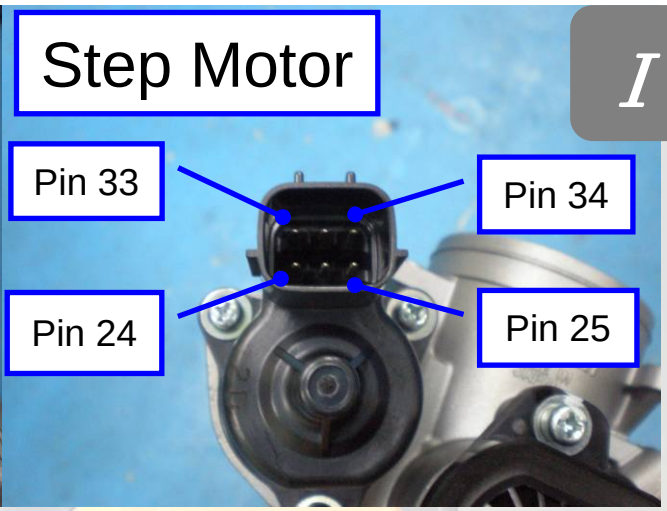


Measurement Resistance：12.0 ± 0.6Ω

Throttle Body ASM

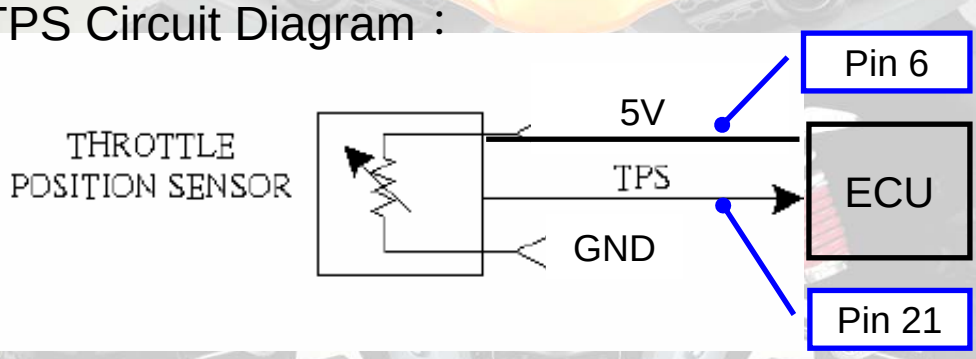
Throttle Body – TPS 、Step Motor



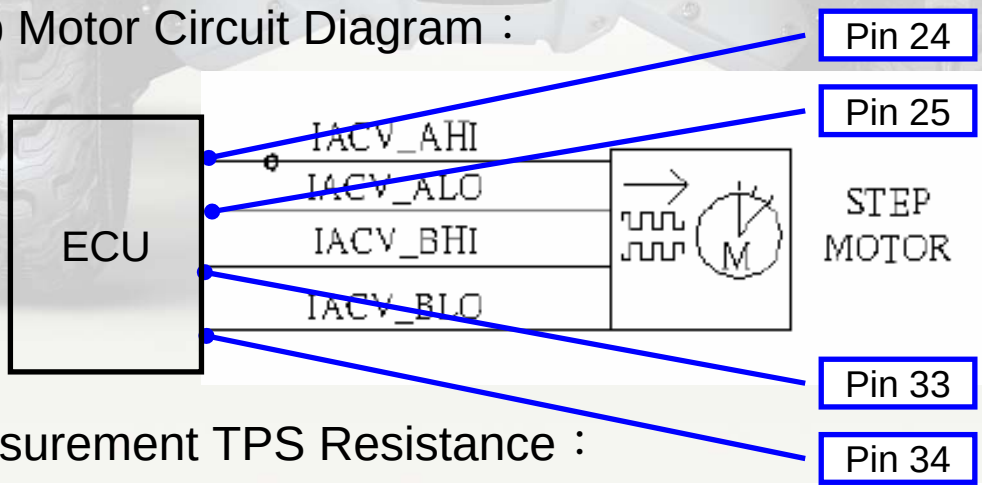


Part Introduction

TPS Circuit Diagram：



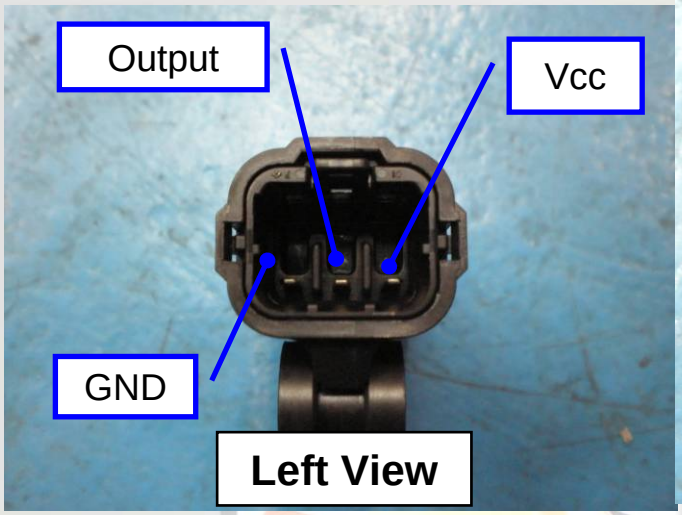
Step Motor Circuit Diagram：



Measurement TPS Resistance：

1~2Ω (ECU Pin21 + GND)

Rollover (Fuel-Cut) Sensor



Part Introduction

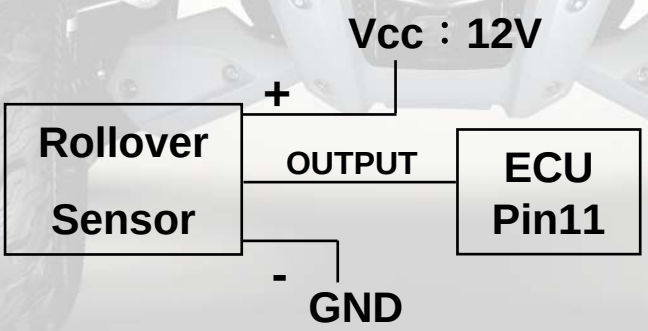
Sensor Voltage：12V

Sensor Pitch Angle：65˚ ± 10˚

Sensor Roll Angle：-20˚~+20˚

Sensor Temperature：-10~+60℃

Circuit Diagram：



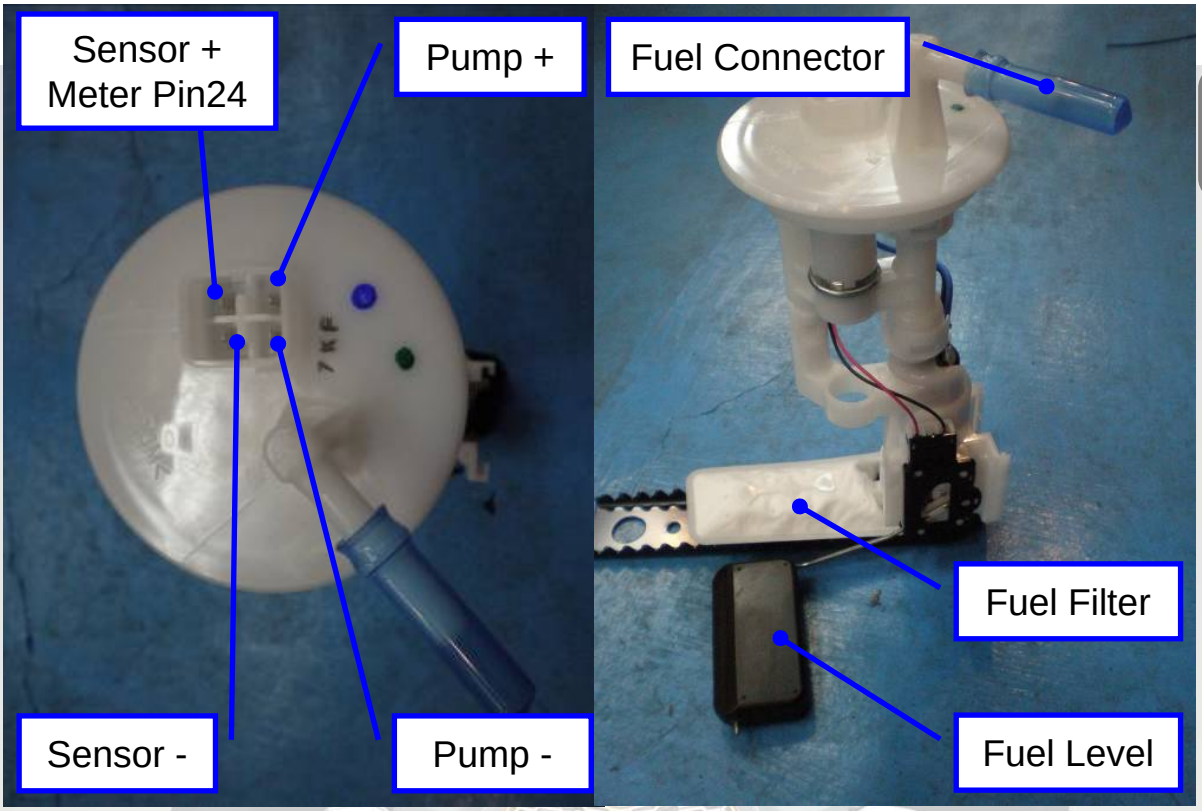
Assembly

Bolt：M4 Bolt x 2

Tighten Torque：1.5~2.5Nm

Measurement Resistance：3.9Ω (Vcc + Output)

Fuel Pump



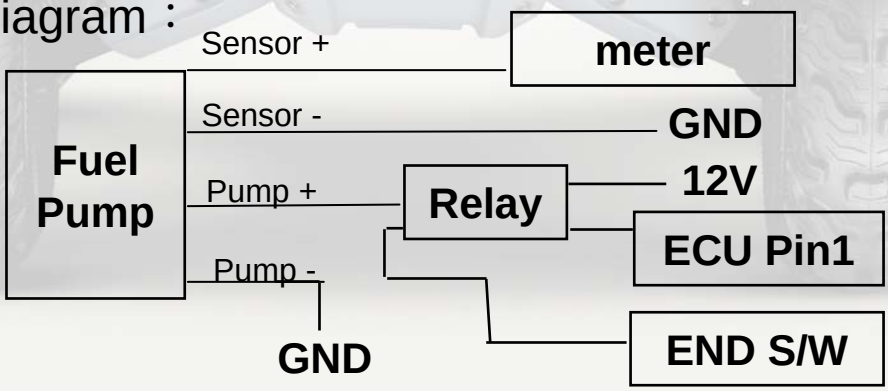
Part Introduction

Pump Characteristic Voltage：12V

Feed Fuel Pressure：250 ± 10Kpa

Feed Fuel Rate：30.6 L/hr (min)

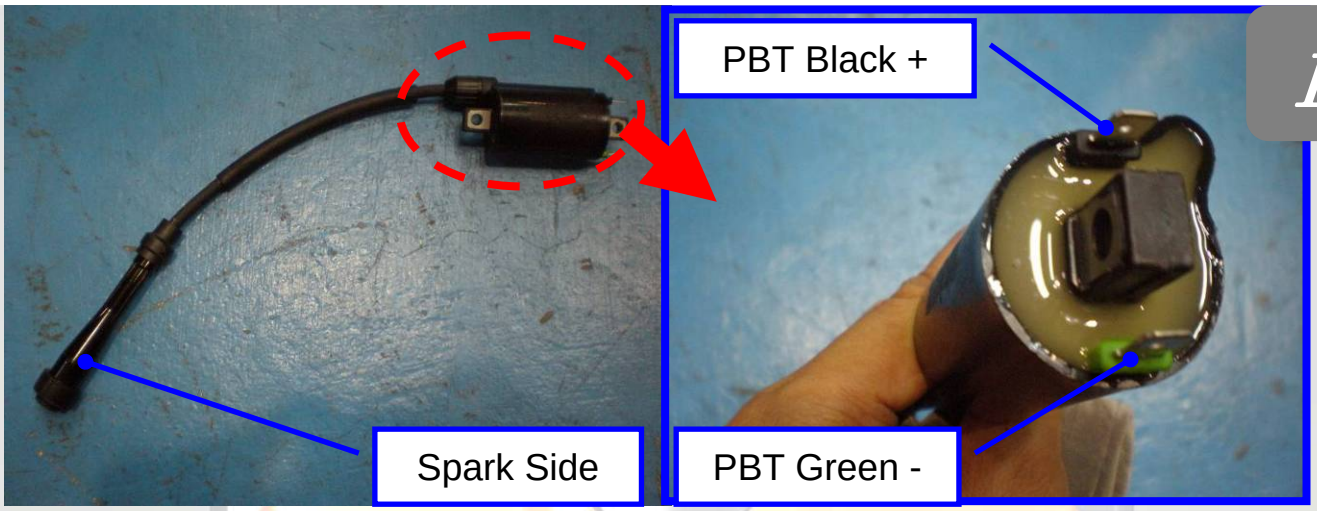
Circuit Diagram：



Measurement Resistance： 4~ 10Ω (Full Stop)

93~100Ω (Empty Stop)

Ignition Coil

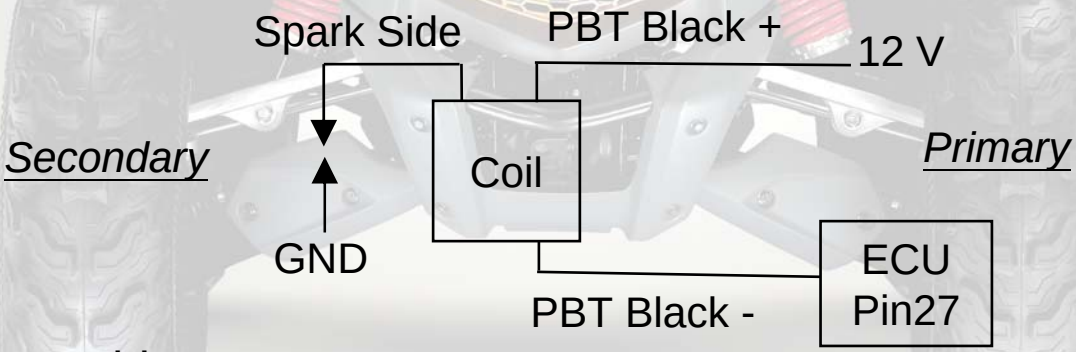


Part Introduction

Sensor Characteristic Voltage：12V

Sensor Temperature：-10 ~ +60 ℃

Circuit Diagram：



Assembly

Bolt：M4 Bolt x 2

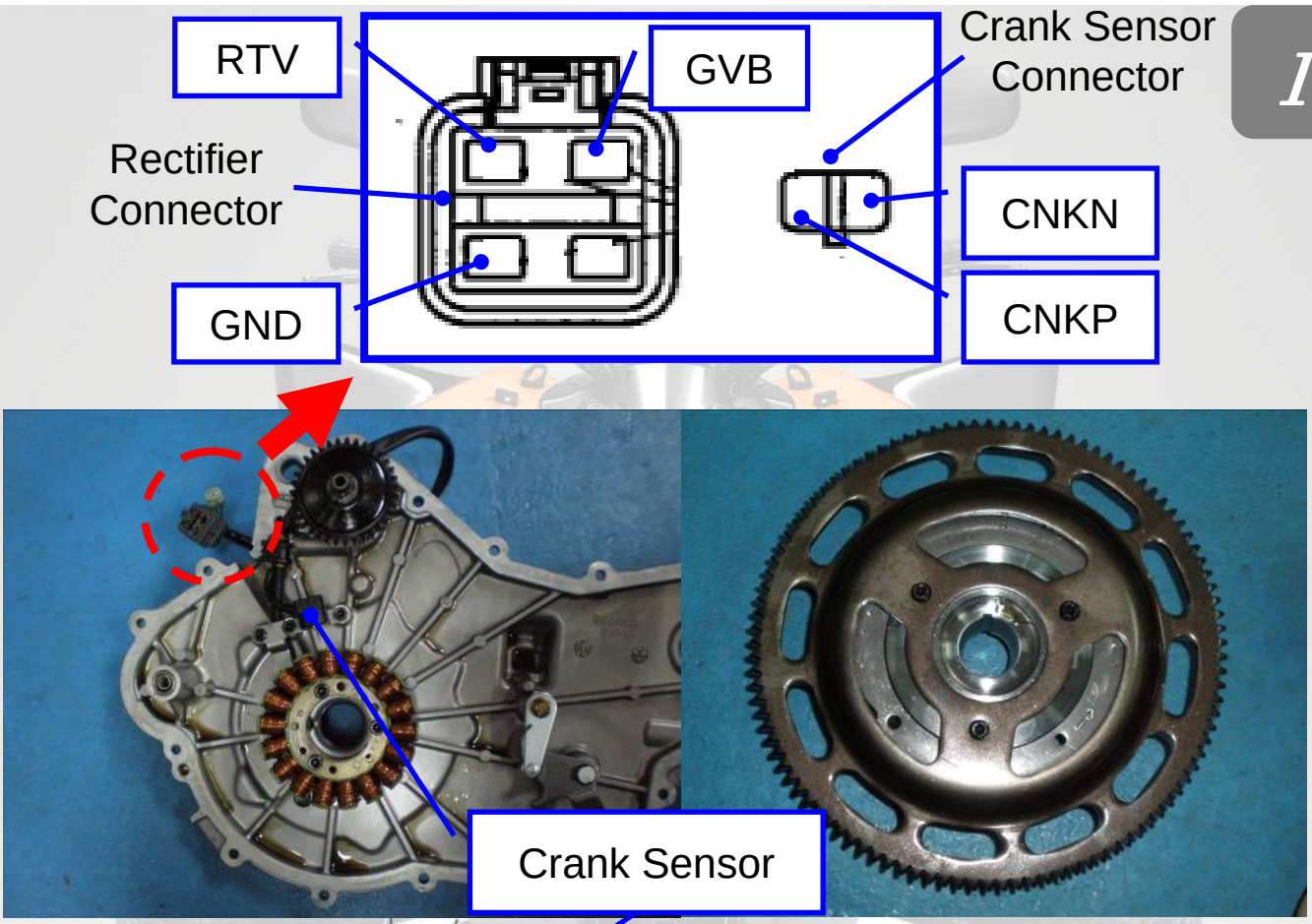
Tightening Torque：10 ± 2 Nm

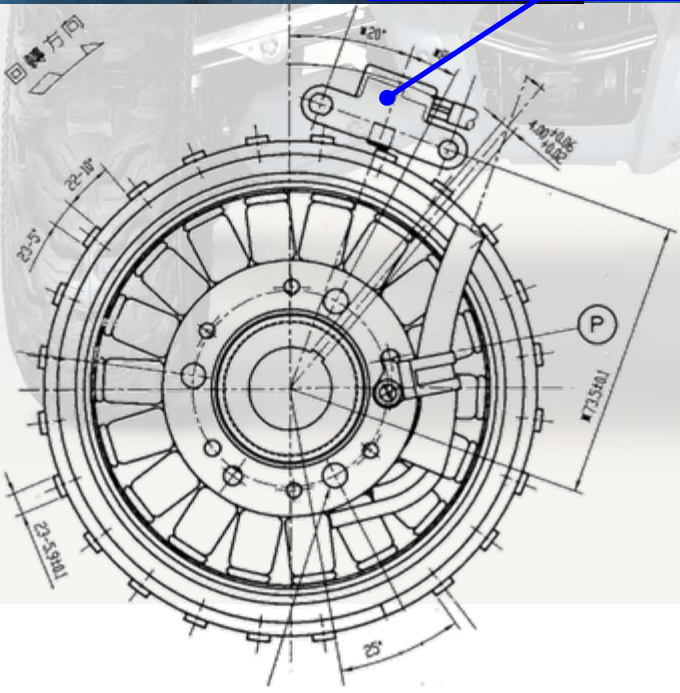
Measurement

Primary：2.9 Ω ± 10%

Secondary：15 KΩ ± 10%

Alternator


RTV
GVB
Crank Sensor Connector
Rectifier Connector
CNKN
GND
CNKP
Crank Sensor


COVER

Alternator

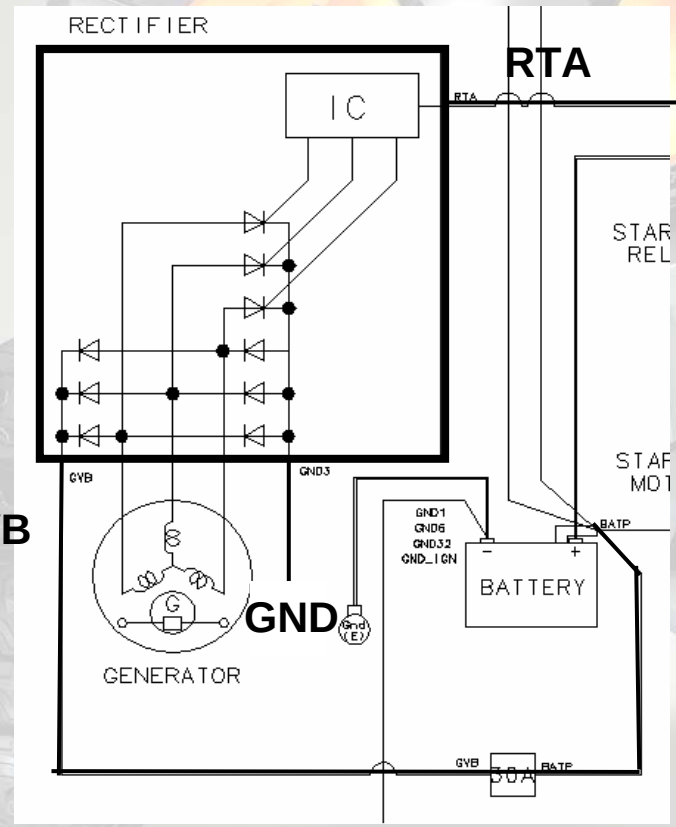
Part Introduction

Electric Characteristic Voltage：12V

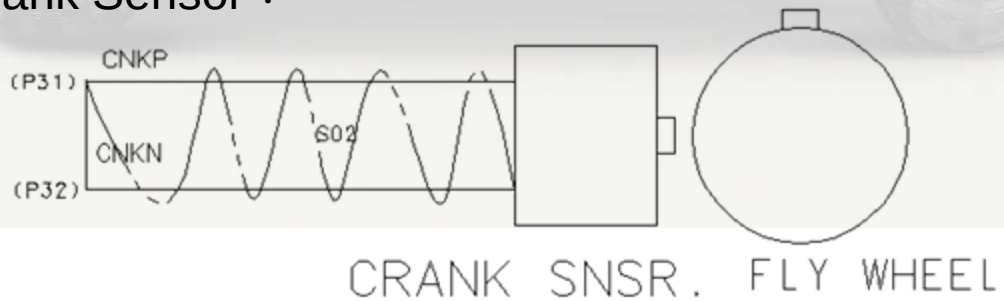
Output：16V / 1500rpm ↑

Circuit Diagram

Rectifier：



Crank Sensor：



ENGINE

DISMANTLE

ENGINE

ASSEMBLY

ENGINE - Dismantle

CAUTION：

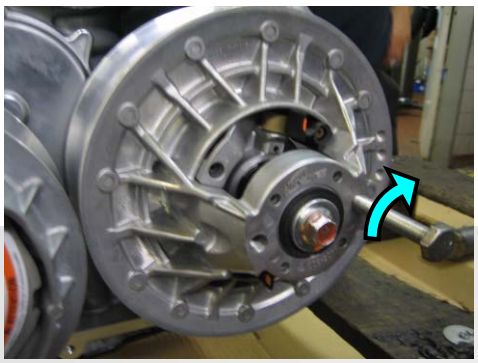
Only trained and certificated technician can disassembly the CECTEK 500 EFI ENGINE. Improper disassembly may damage the engine. CECTEK can not provide the warranty to the engine which has not been properly disassembled and assembled by trained and certificated technician.

Ⅱ

CVT COVER DISMANTLE	
	Loosen the CVT cover bolts
	Remove the CVT cover
	The CVT cover

ENGINE - Dismantle

CVT BELT DISMANTLE

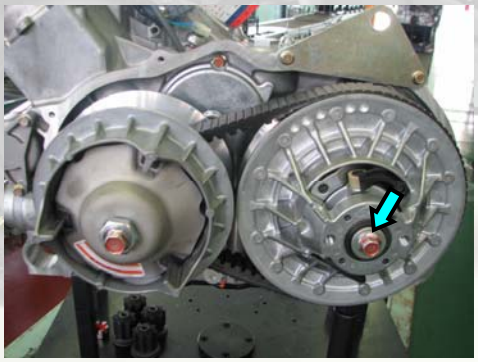


Tighten the *Belt Removal Tool* to end to open the driven pulley then removal the belt

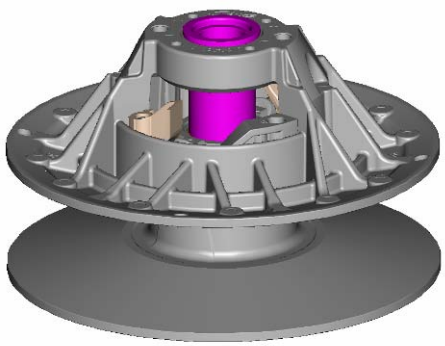
The belt

※Reinstall , the installer must can read the printed word on the belt

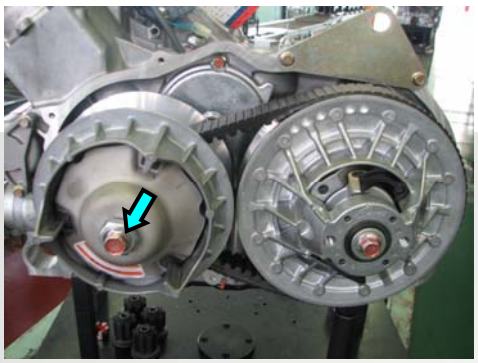
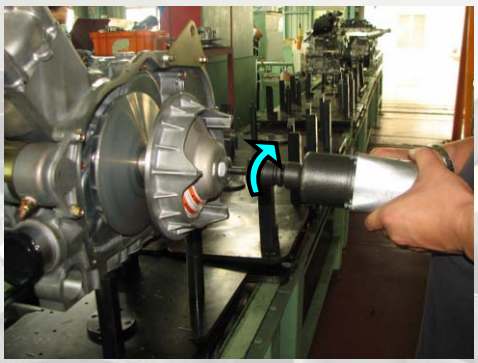
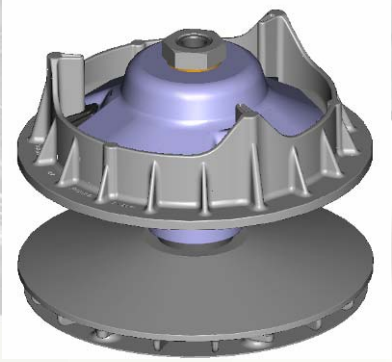
CVT DRIVEN PULLEY DISMANTLE



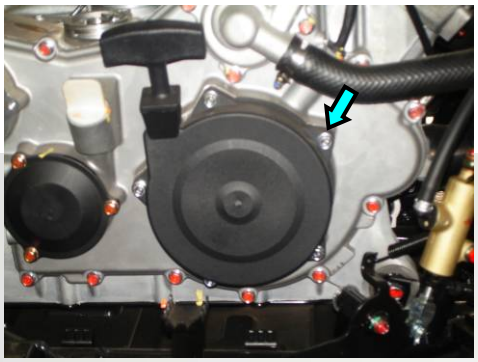
Loosen the driven pulley bolt , then remove the driven pulley



The Driven pulley

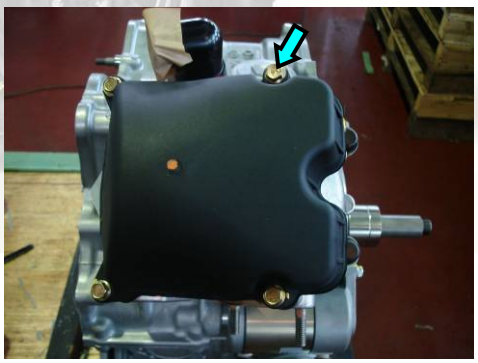
CVT DRIVING PULLEY DISMANTLE	
	Loosen the driving pulley bolt
	Tighten the *CVT Puller* by air wrench to remove the drive pulley
	The drive pulley

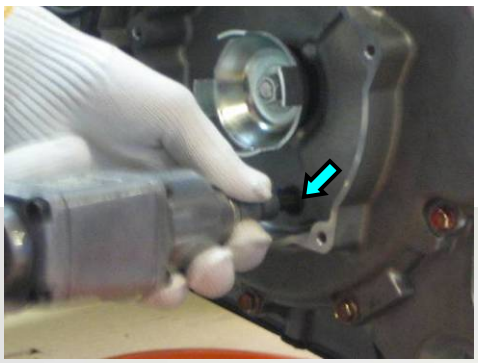
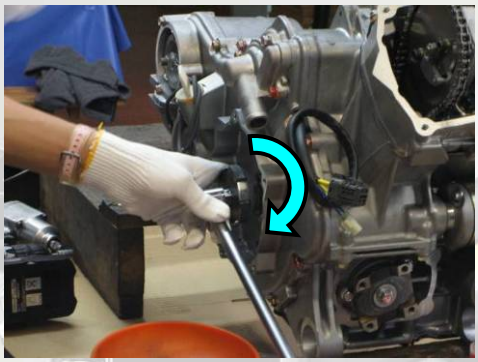
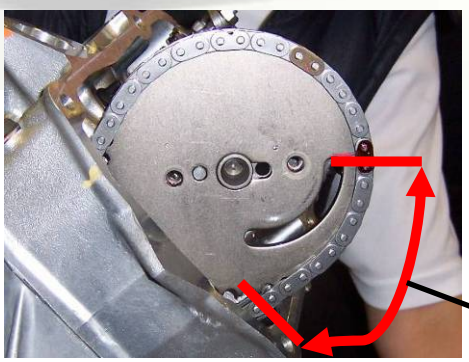
REWIND STARTER DISMANTLE

	Loosen the rewind starter bolts
	The rewind starter

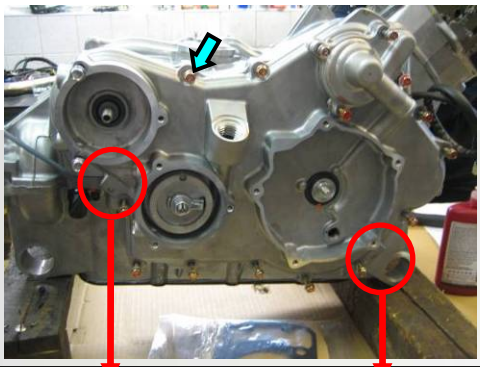
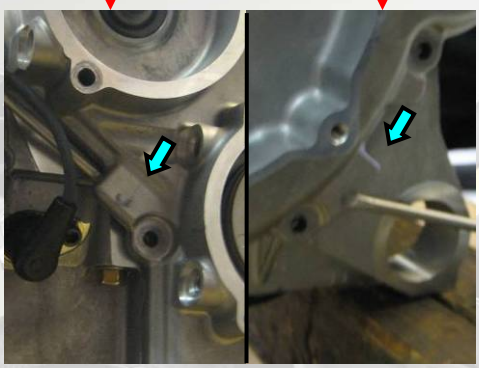
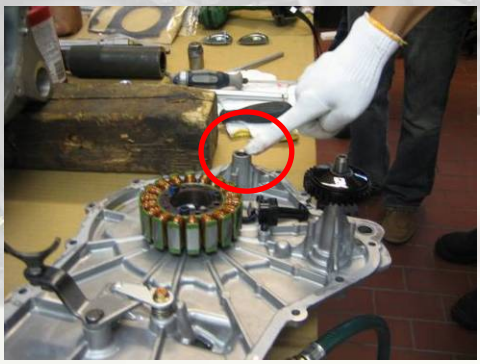
TIMING CHECK

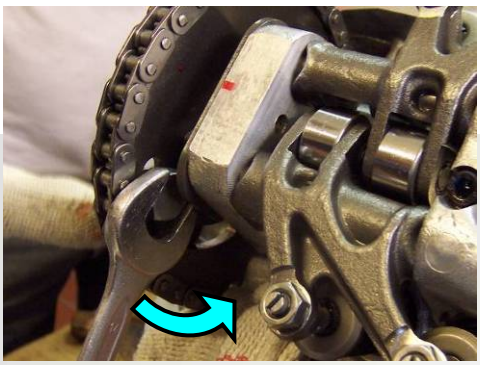
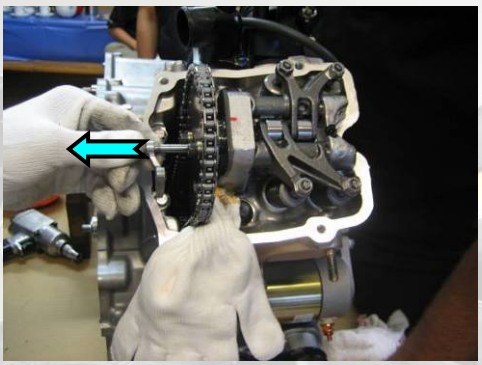
※before dismantle engine must be check the chain timing

	Loosen the cam cover bolts, then remove the cam cover

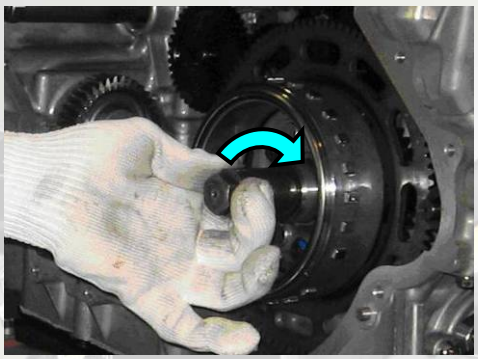
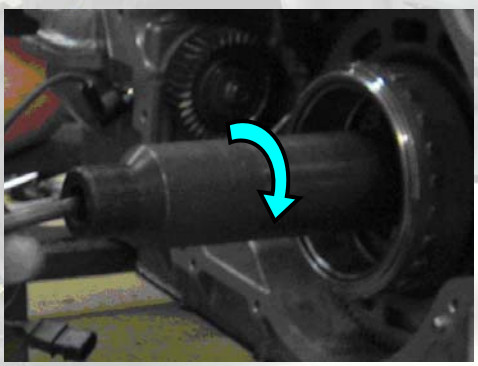
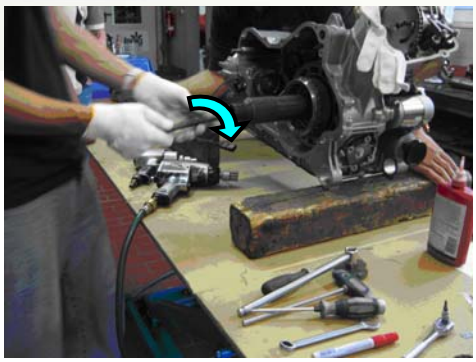
	Loosen the taper plug for check the timing
	Use the *Rewind Starter Stopper* clockwise rotate crankshaft then check chain timing
	ALT rotor mark meet the accessory cover mark
	When ALT mark correct , then check cylinder head sprocket have six pieces counter from cylinder head

ACCESSORY COVER DISMANTLE

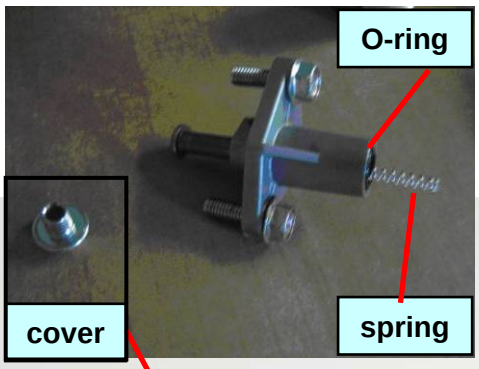
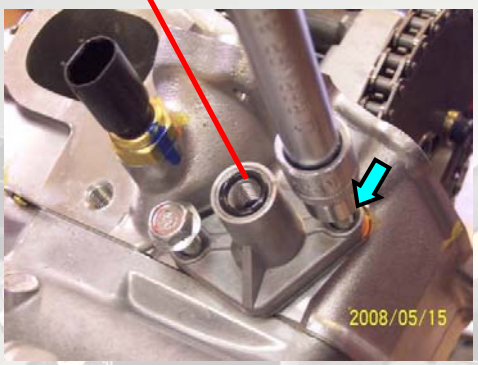
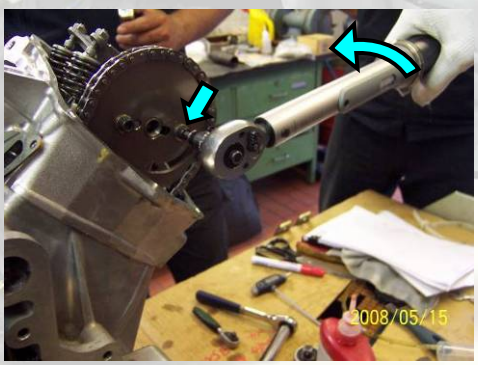
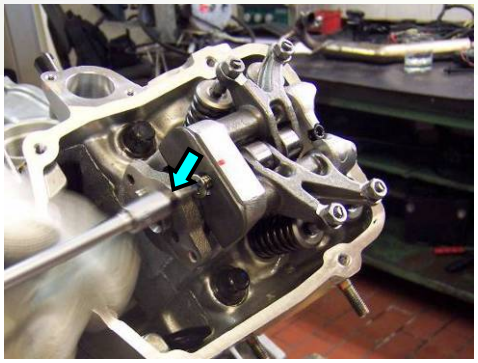
	Loosen the accessory cover bolts
	Raise the accessory cover by screwdriver from the prominence of case
	When remove the accessory cover be care the spin nose antithrust spring and washer

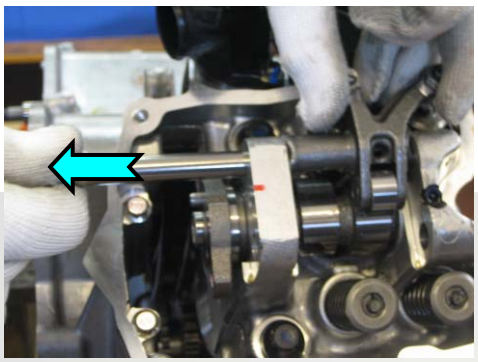
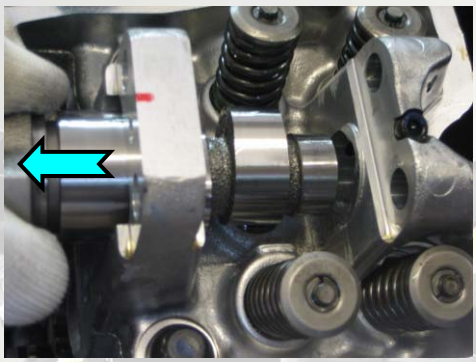
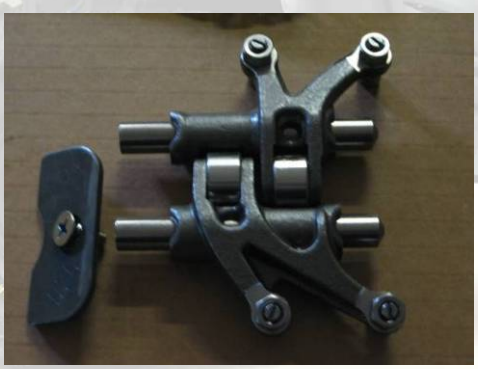
DISCOMPRESSOR DISMANTLE	
	Loosen the discompressor mechanism bolt by open wrench
	Pull out the discompressor mechanism
	The discompressor mechanism, and notice the spring

ALTERNATOR ROTOR DISMANTLE

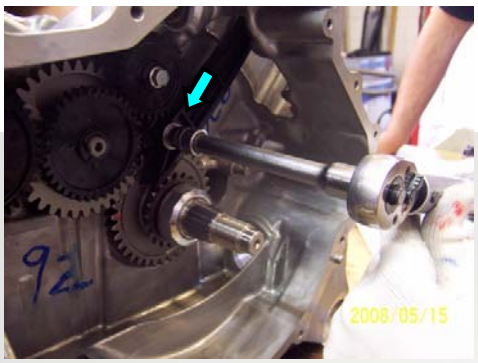
	Loosen the ALT rotor nut by air wrench ※The socket deep 85mm
	Tighten *Crankshaft Protector* to end on crankshaft
	Tighten the *ALT Puller* to end on ALT rotor
	Tighten the *CVT Puller* on *ALT Puller* by air wrench , then remove the ALT rotor

CAM SHAFT DISMANTLE

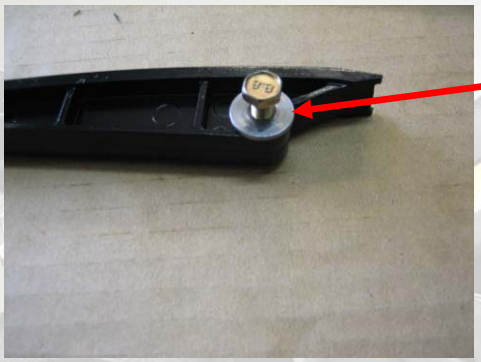
	Loosen the tensioner cover , and notice the spring and O-ring
	Loosen the tensioner bolts , then remove the tensioner
	Loosen the cam sprocket bolts , then remove the cam sprocket
	Loosen the cam antithrust plate Bolt , then remove the plate

	Pull out intake and exhaust rock arm shaft by magnet
	Pull out the cam shaft
	The rock arms and cam thrust plate
	The cam shaft

CHAIN DISMANTLE



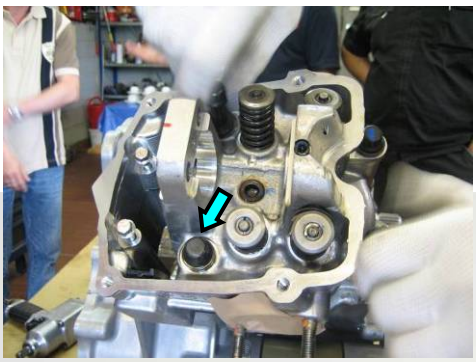
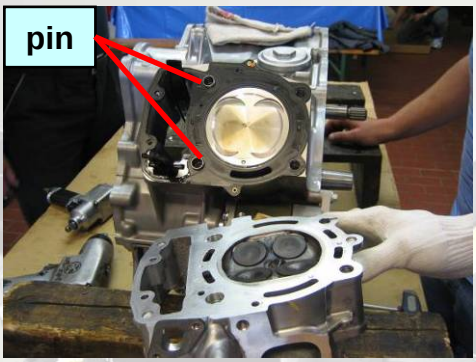
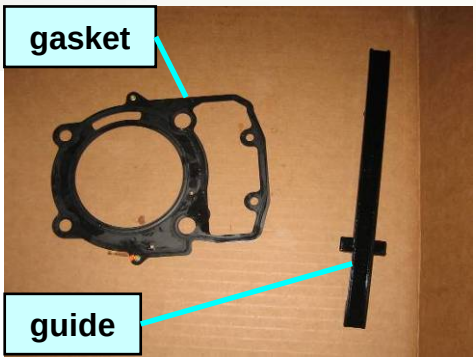
Loosen the chain guide bolt , then remove the chain



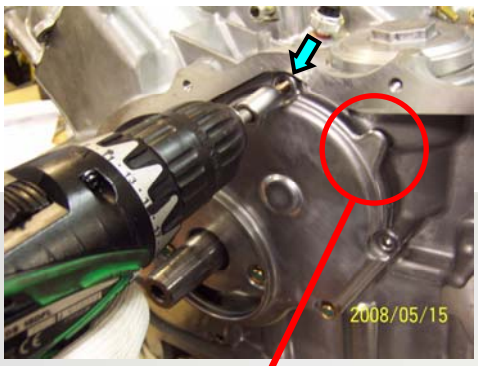
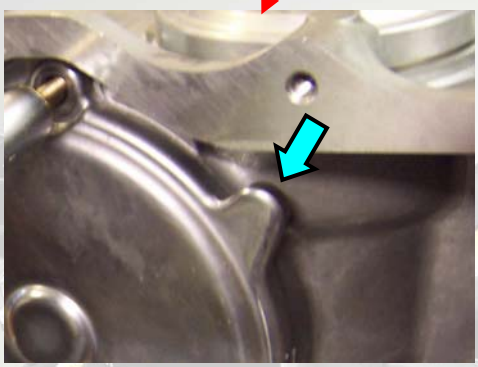
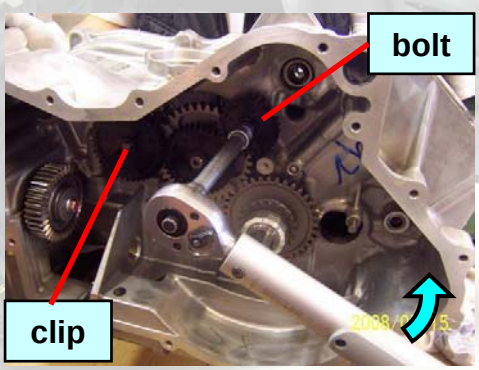
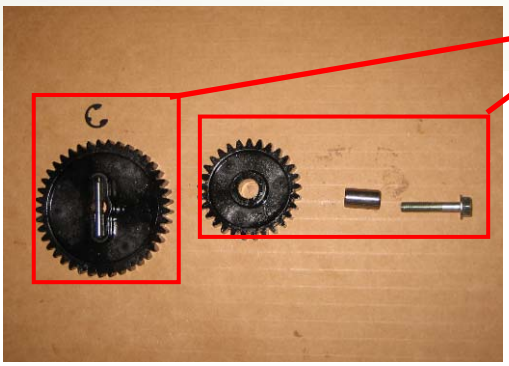
Notice the boss

The chain

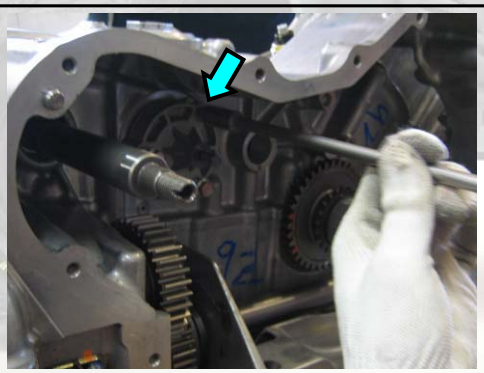
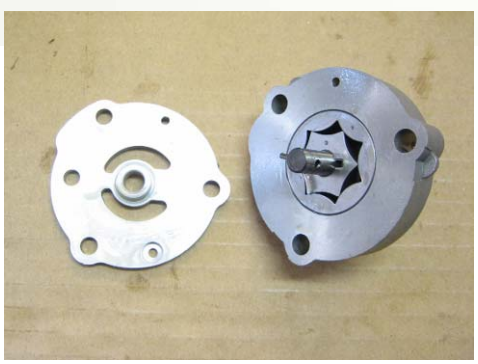
CYLINDER HEAD DISMANTLE

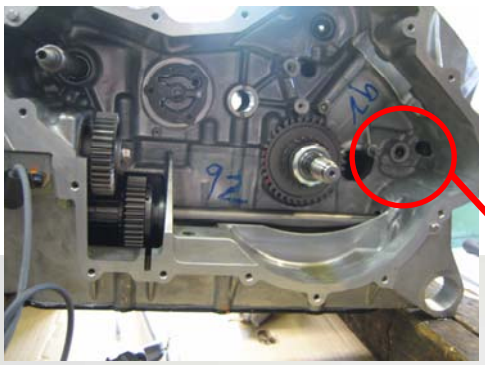
	Loosen the cylinder head bolts
	Remove the cylinder head , and notice the lock pins
	Remove the gasket and chain guide
	The cylinder head gasket and chain guide

BALANCER DISMANTLE

	Loosen the balancer cover bolts
	Raise the balancer cover by screwdriver from the prominence of case
	Loosen the water pump idle pulley bolt and unclip the oil pump gear clip
	The oil pump gear The water pump idle gear

	Loosen the balancer bolt by use screwdriver stop the balancer
	The balancer

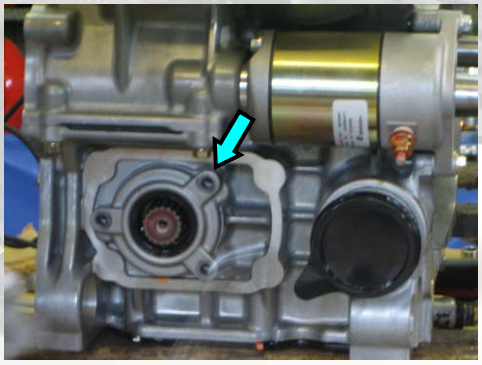
THE OIL PUMP DISMANTLE	
	Loosen the oil pump bolts and unclip the oil pump gear clip
	The oil pump and back plate



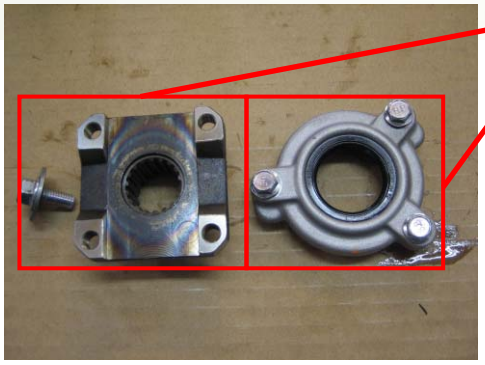
Remove the spin nose and washer

THE DRIVESHAFT DISMANTLE

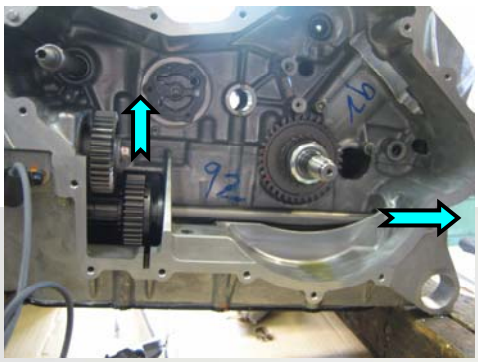
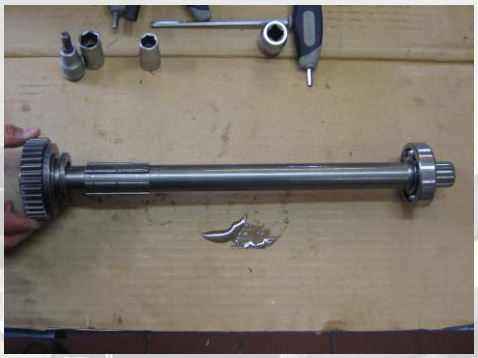
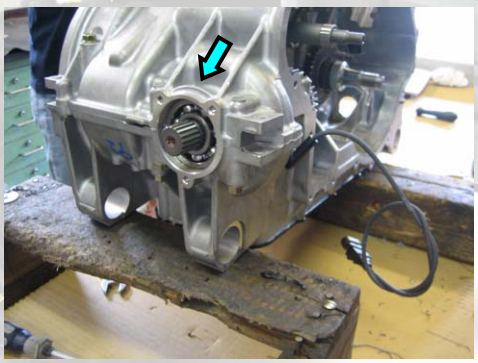
Loosen the front driveshaft yoke bolts , then remove the yoke

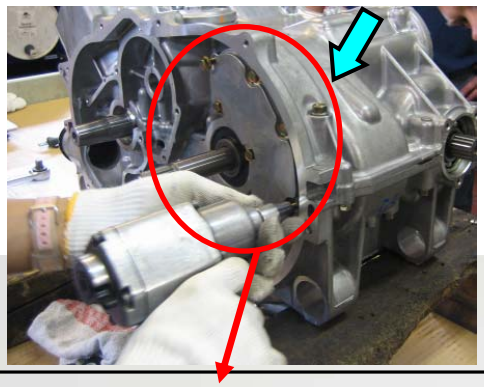


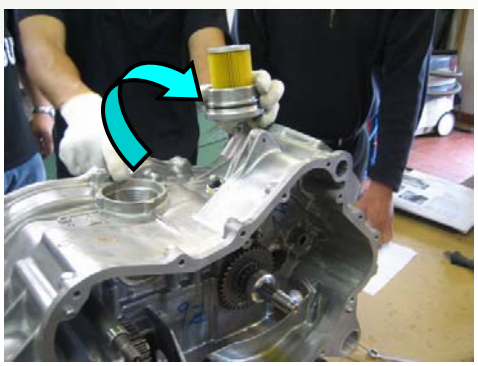
Loosen the front driveshaft seal cover bolts , then remove the cover

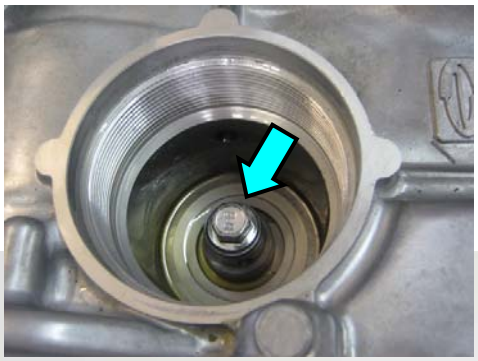


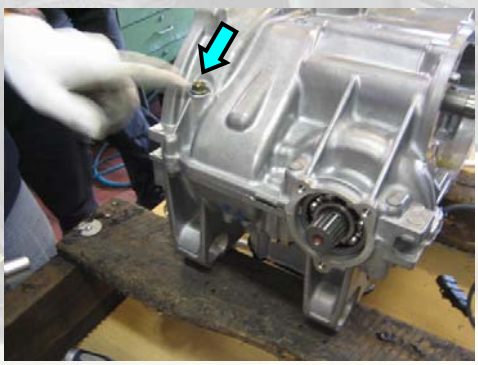
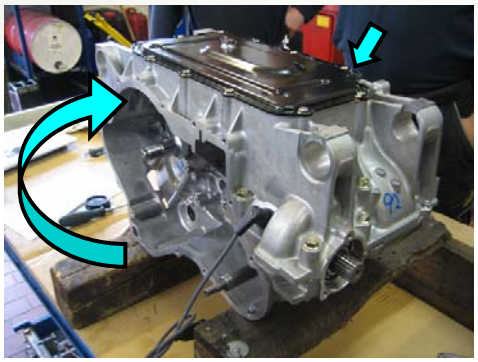
The yoke
The seal cover

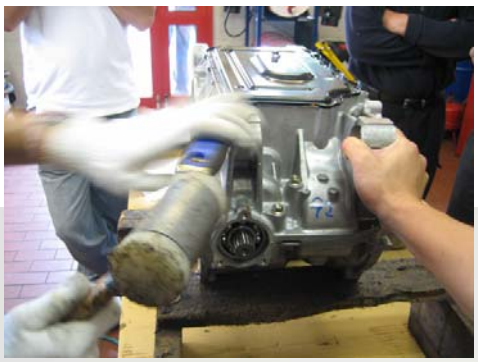
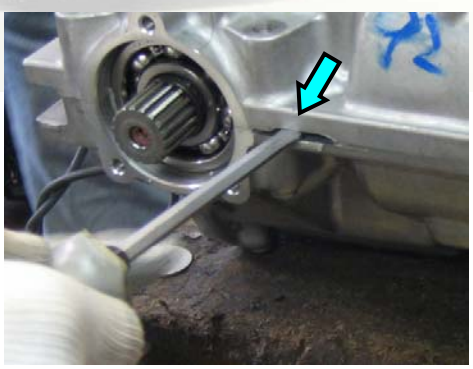
	Pull the front driveshaft and remove the 4WD gear
	The 4WD gear
	Remove the rear driveshaft yoke and seal cover (same procedure of front driveshaft)
	Loosen the starter bolts , then remove the starter 

	Loosen the shift drum cover bolts
	Loosen the shift drum antithrust plate

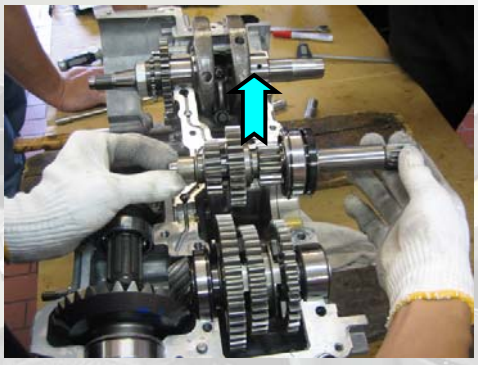
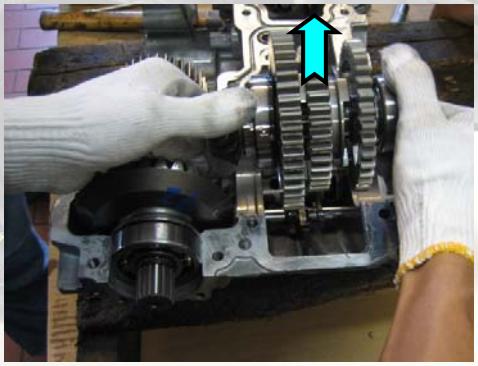
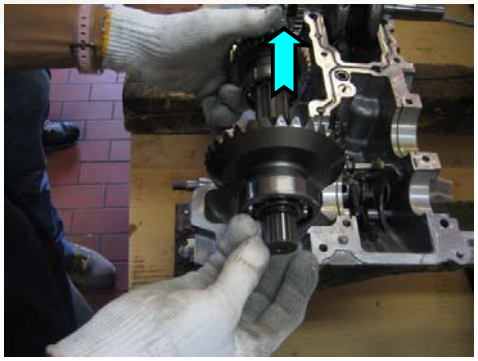
THE OIL MAIN CIRCUIT DISMANTLE	
	Loosen the oil filiter cover
	Remove the oil filter

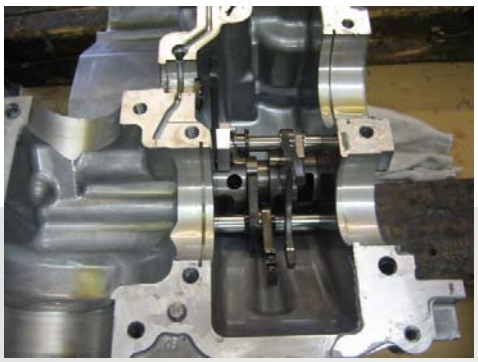
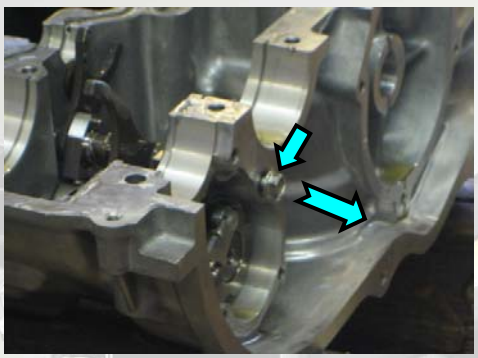
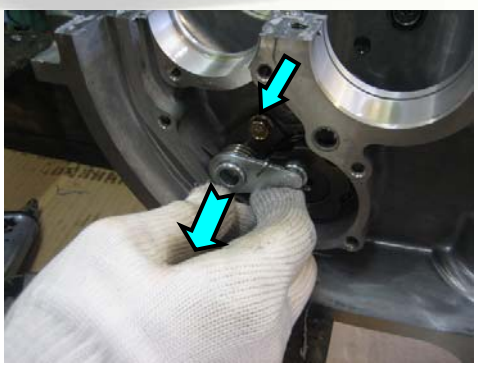
	Loosen the main circuit bolt , then remove the main circuit
	The main circuit

THE CYLINDER BLOCK DISMANTLE	
	Remove the rear driveshaft yoke and seal cover
	Turn the engine over , and loosen the oil sump bolts

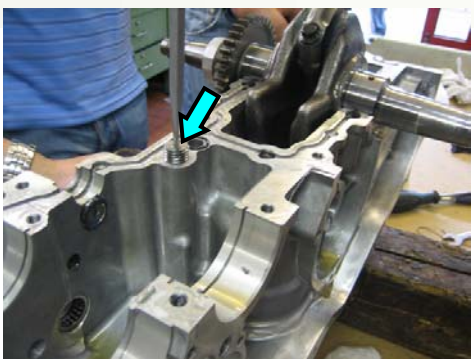
	Use scraper and hammer to open the oil sump
	The oil sump ※When reinstall must clean the surface of the oil sump
	Loosen the crankcase bolts
	Raise the crankcase by screwdriver from the prominence of case

	The crankcase ※When reinstall must clean the surface of the crankcase

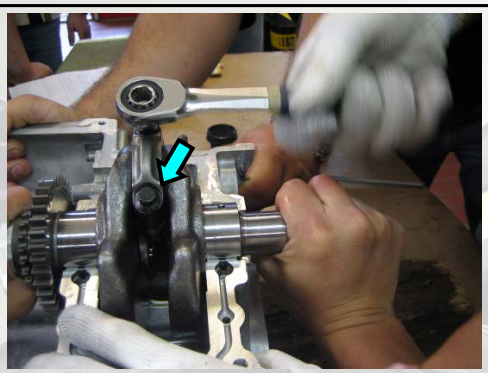
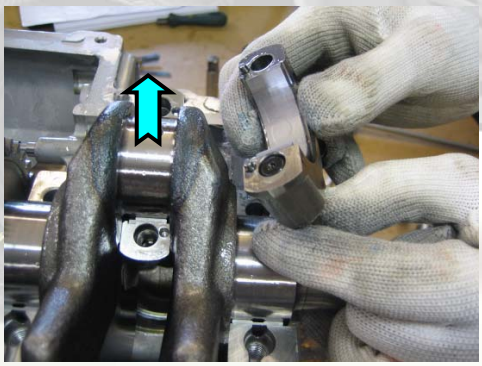
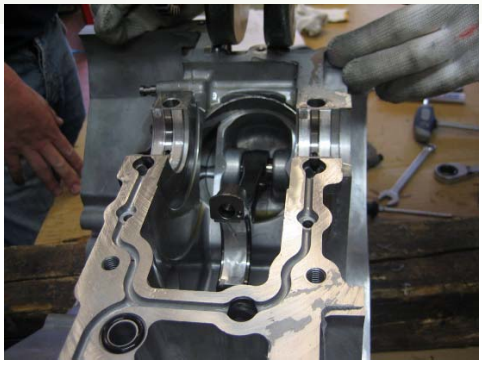
THE TRANSMISSION GEAR DISMANTLE	
	Remove the main shaft
	Remove the lay shaft
	Remove the rear shaft

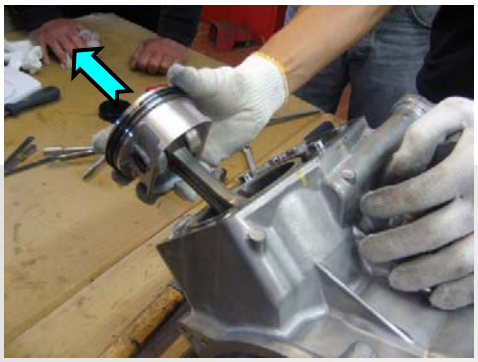
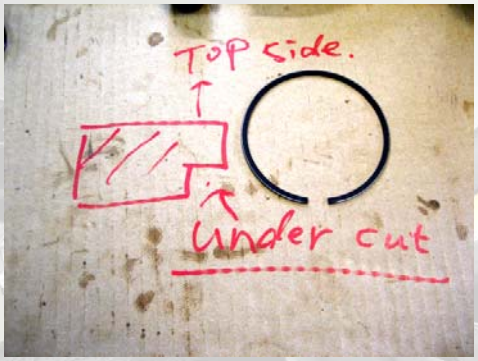
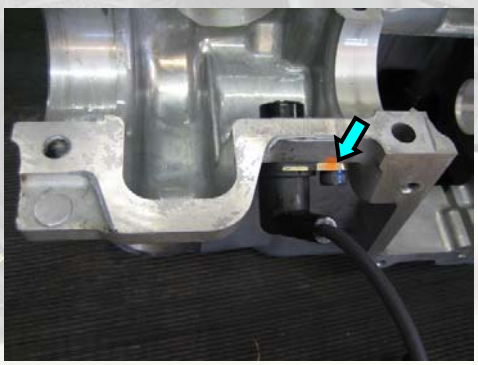
	The cylinder block ※When reinstall must clean the surface of the crankcase
	Loosen the shift fork bolt , then pull out the shift fork shaft and remove the fork
	The shift fork
	Loosen the shift position rotor bolt , then remove the parking shaft plate

	The parking shaft
	Pull out the shift drum from the cylinder block
	The shift drum

THE OIL RELEASE VALVE DISMANTLE	
	Loosen the oil release valve bolt , then remove the oil release valve by magnet

	The oil release valve

THE CRANKSHAFT DISMANTLE	
	Loosen the connecting rod bolts
	Remove the connecting rod cap , then remove the crankshaft
	The cylinder block ※When reinstall must clean the surface of the crankcase

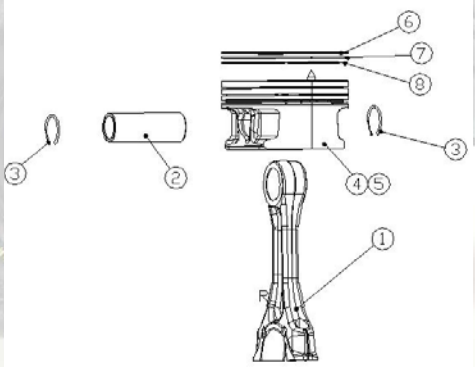
THE PISTON DISMANTLE	
	Pull out the piston ※Must clean the carbon on piston
	Piston ring inspection The second ring top side
	Loosen the speed sensor bolt , then remove the speed sensor

CAUTION：

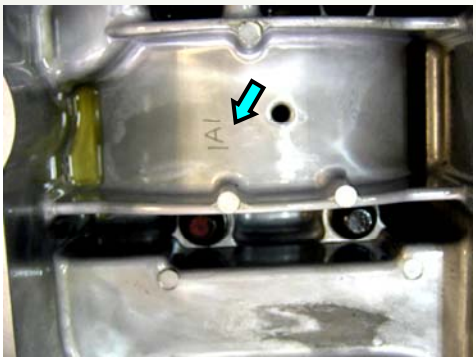
Only trained and certificated technician can disassembly the CECTEK 500 EFI ENGINE. Improper disassembly may damage the engine. CECTEK can not provide the warranty to the engine which has not been properly disassembled and assembled by trained and certificated technician.

THE PISTON AND CONNECTION ROD ASSEMBLY

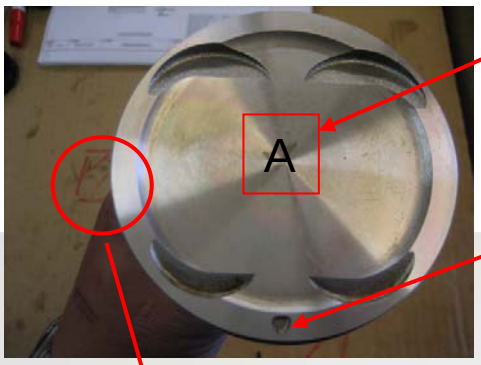
NO.	PART NAME	PART NO.
1.	CONROD ASSY.	40098013
2.	PISTON PIN	40090024
3.	CLIP	40090027
4.	PISTON-A	40096011
5.	PISTON-B	40096012
6.	PISTON RING TOP	40096013
7.	PISTON RING SECOND	40096014
8.	PISTON RING OIL CONTROL	40096015



1.Before assembly , must confirm if the piston (4,5) is matching the category of liner
2.A category piston only can be installed on A category liner
3.B category piston only can be installed on B category liner



4.Make sure the liner size mark on the cylinder block



5.The piston size mark on top (A or B)
6.Confirm：when you face the piston , the piston (4,5) exhaust mark is in the down side

7.Confirm：the connecting rod (1) right side mark R is same side of piston
8.Install one clip (3) into the piston clip groove firmly
9.Install pin (2) into pin groove

10.Install the clip (3) into the other side groove to stop the pin (2)
11.Then sequentially install parts (8) , (7) , (6) , the crevice position of each ring as figure A shows

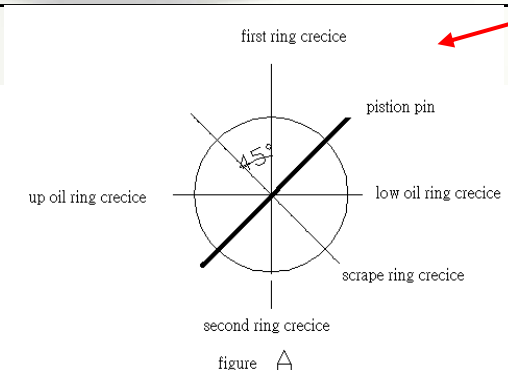


figure A

12.The opening of ring (8) of spacer shall be upward as figure B shows

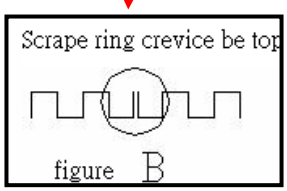


figure B

THE BALANCER ASSEMBLY		
NO.	PART NAME	PART NO.
1.	RETAIN E-RING	RES009
2.	GEAR (37T)	40150030
3.	PIN	40130083
4.	BALANCER SHAFT ASSY.	40128004

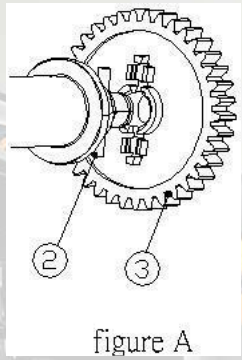
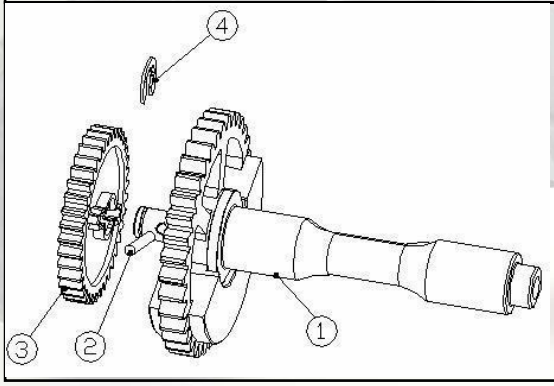


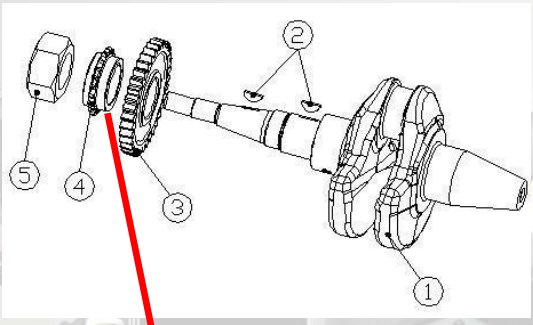
figure A

1.Install pin (2) into balancer shaft (1)
2.Install gear-oil pump driver (3) into balancer , reference to figure A



3.Clip the E-ring (4) check the retain E-ring install into the groove of balancer shaft

THE BALANCER ASSEMBLY		
NO.	PART NAME	PART NO.
1.	CRANKSHAFT	40110023
2.	KEY	40110108
3.	GEAR (36T)	40120018
4.	CAM CHAIN SPROCKET	41010004
5.	NUT (M30)	40110024



1.Install key (2) into crankshaft (1), keep the key parallel with crankshaft-taper
2.Install gear (3) into crankshaft (1) , gear groove must be alignment key of crankshaft

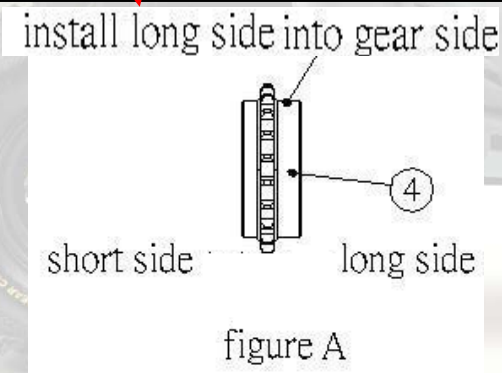
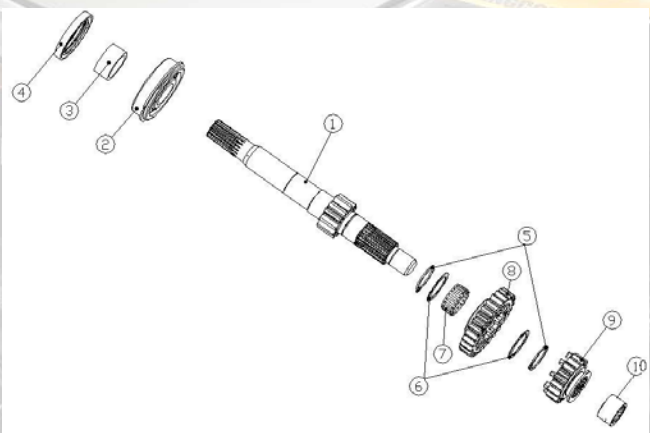


figure A

3.Install cam chain sprocket (4) into crankshaft (1) , shall be install long side into gear side of crankshaft , reference to figure A
4.Screw nut (5) to crankshaft (1) , tighten torque 250Nm

THE MAIN SHAFT ASSEMBLY		
N0.	PART NAME	PART NO.
1.	MAIN SHFAT	46030001
2.	BEARING	46030034
3.	SPACER	46010003
4.	LIP SEAL	40016004
5.	RETAIN C-RING	RCS025
6.	WASHER	46030010
7.	NEEDLE BEARING (CAGE TYPE)	46030030
8.	HIGH SPEED DRIVE GEAR (27T)	46030003
9.	LOW SPEED DRIVE GEAR (18T)	46030004
10.	NEEDLE BEARING (OPEN TYPE)	46030028

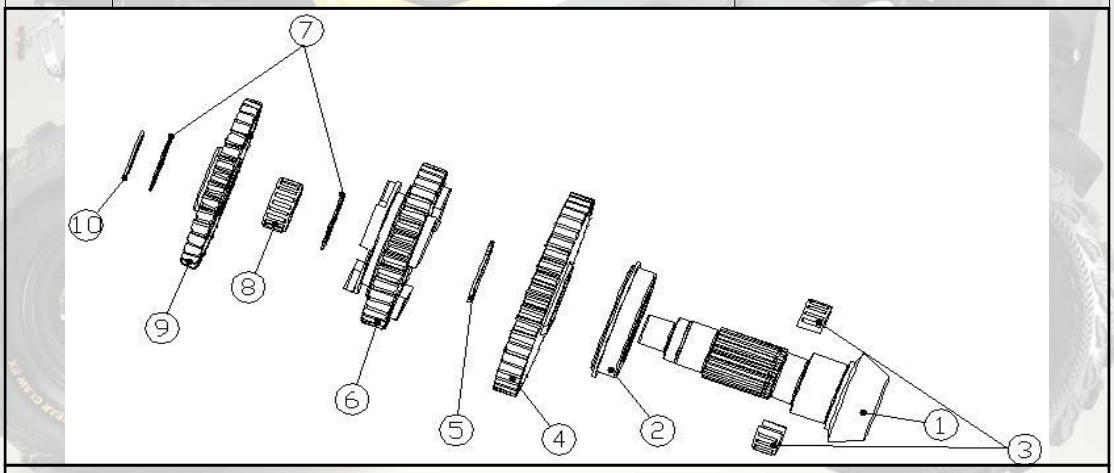


Before install gear and bearing , please lubricate with 10W/40 oil

1. Install bearing (2) into main shaft (1) , the bearing of ring side shall be install to main shaft of gear side
2. Install spacer (3) into main shaft , then install seal (4) into spacer (3)
3. Install a C-ring (5) into main shaft of groove , then put a washer (6) into main shaft
4. Install needle bearing (7) and high gear (8) into main shaft , shall be install high gear of raised side into main shaft of gear side
5. Install a washer (6) into main shaft then install C-ring (5) into main shaft of outside groove
6. Install low gear (9) into main shaft then install needle bearing (10) into main shaft , low gear of forl groove shall be in the outside

THE LAY SHAFT ASSEMBLY

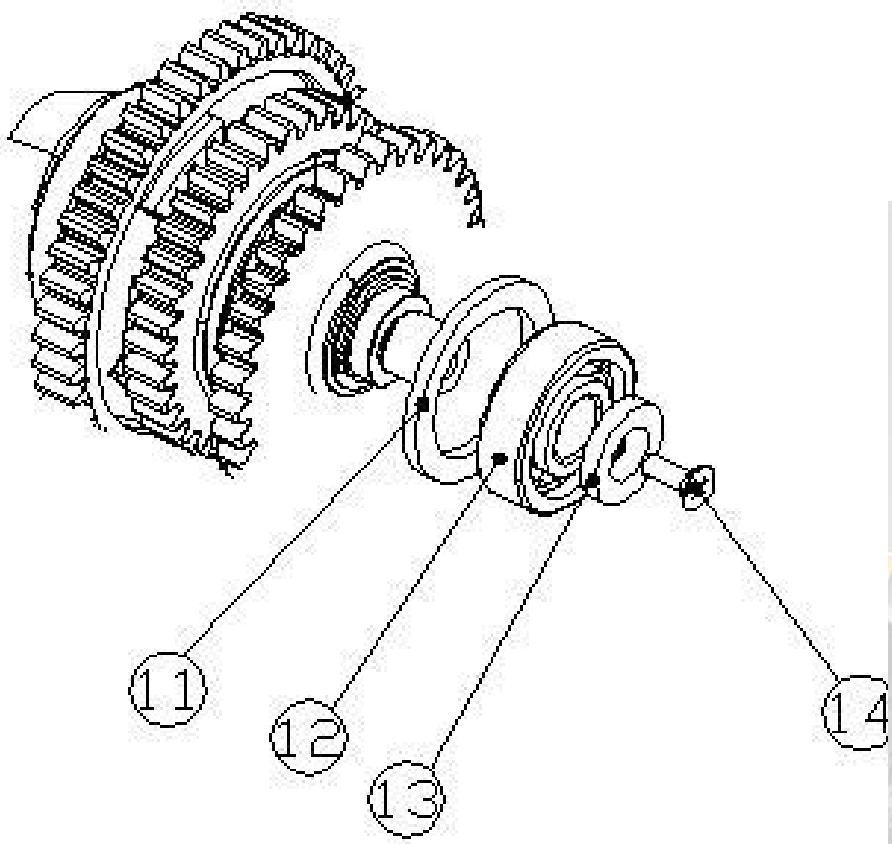
N0.	PART NAME	PART NO.
1.	LAY SHFAT	46030002
2.	CYLINDRICAL ROLLER BEARING	CRBNU1007NR
3.	NEEDLE BEARING (HALF CAGE TYPE)	46030031
4.	LOW SPEED DRIVEN GEAR (45T)	46030007
5.	RETAIN C-RING	RCS030
6.	HIGH SPEED DRIVEN GEAR (36T)	46030005
7.	WASHER	46030010
8.	HNEEDLE BEARING (CAGE TYPE)	46030030
9.	REVERSE DRIVEN GEAR (34T)	46030008
10.	RETAIN C-RING	RCS025
11.	ADJUSTING WASHER	46030016-26
12.	BEARING (DOUBLE ROW ANGULAR)	46030029
13.	WASHER	46030012
14.	WASHER	SCF060200883



Before install gear and bearing , please lubricate with 10W/40 oil

1. Install bearing (2) into lay shaft (1) , be shall install bearing of long side into bevel gear side
2. Install needle bearing (3) into lay shaft , then install low gear (4) into lay shaft , be shall install low gear (4) of plane into bevel gear side
3. Install retain C-ring (5) into lay shaft of groove
4. Install high gear (6) into lay shaft , be shall install high gear (6) of fork groove side into another bevel gear side

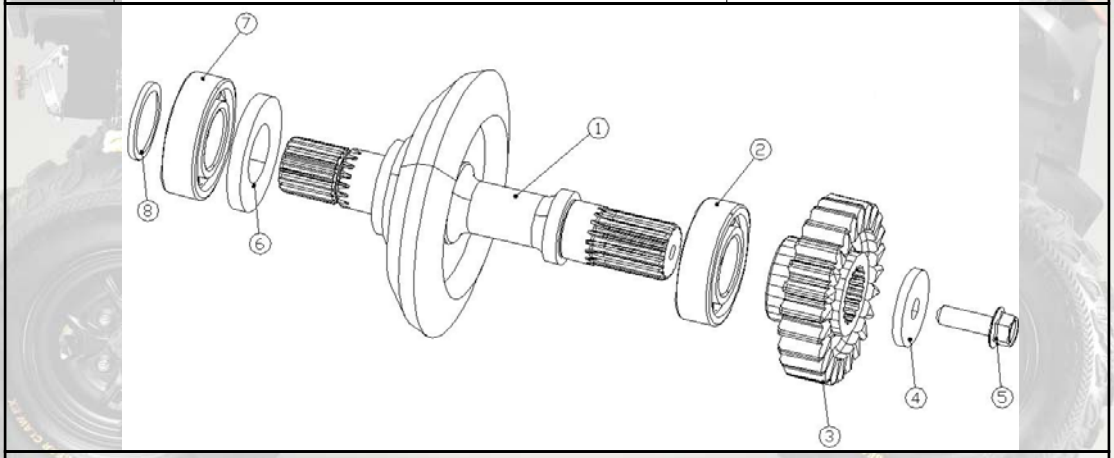
THE LAY SHAFT ASSEMBLY



Before install gear and bearing , please lubricate with 10W/40 oil

5. Install washer (7) into lay shaft , then install needle bearing (8) into lay shaft
6. Install reversal gear (9) into lay shaft , then put a washer (7) into lay shaft , shall be install reversal gear (9) of groove side into bevel gear side
7. Install retain C-ring (10) into lay shaft of groove
8. Measure and calculate gear back clearance , then choose and install adjusting washer (11)
9. Install bearing (12) into lay shaft
10. Install washer (13) and screw flat head screw (14) into lay shaft , tighten torque 9Nm

THE REAR DRIVESHAFT ASSEMBLY		
N0.	PART NAME	PART NO.
1.	DRIVE SHAFT ASSY.	46058001
2.	BEARING	DGB6205
3.	GEAR	46050023
4.	WASHER	46050007
5.	BOLT	BFH080251094
6.	WASHER	46050009-19
7.	BEARING	DGB6305
8.	O-RING	46050025



Before install gear and bearing , please lubricate with 10W/40 oil

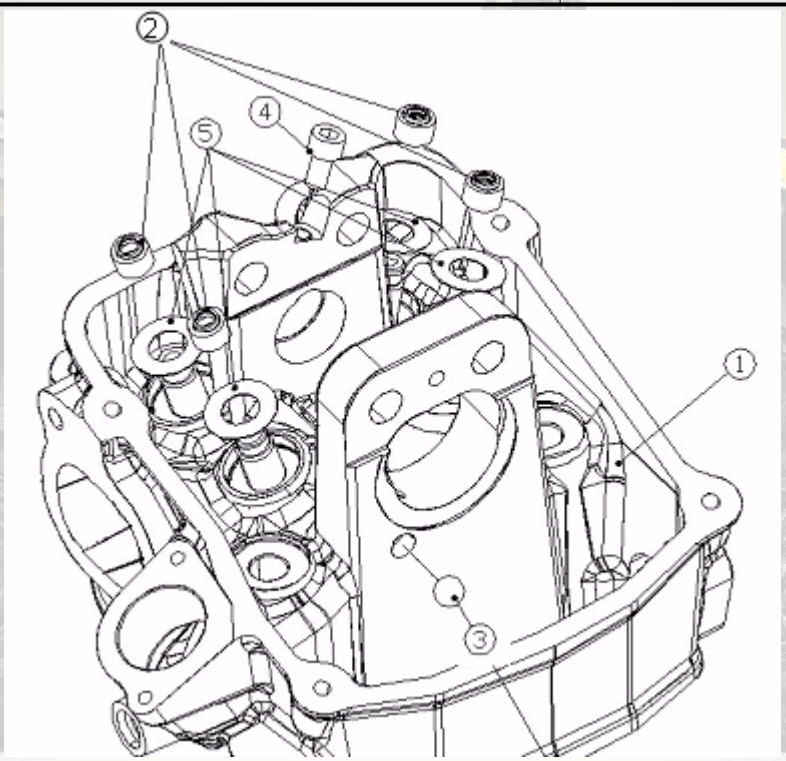
1.Press the bearing (2) into the shaft (1) thoroughly.

2.Install the gear (3) into shaft (1)

3.Tighten the bolt(5) with washer (4) on the shaft (1) , the tighten torque 20Nm

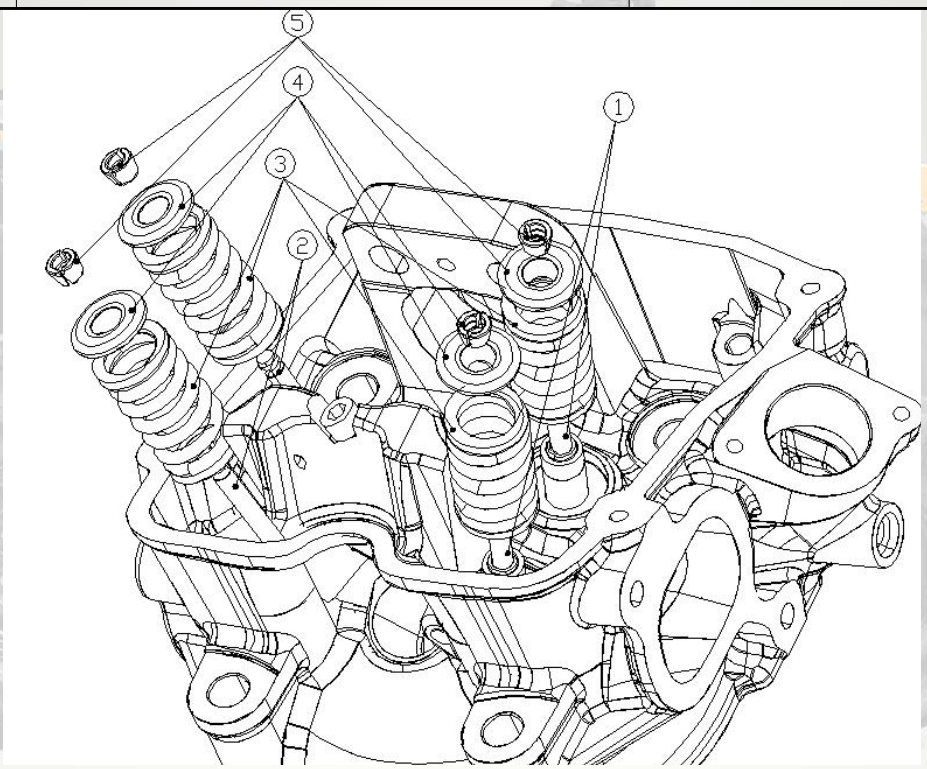
4.Install the washer (6) which thickness shall be measured in advance into shaft (1) , then press the bearing (7) into shaft (1) , finally install the O ring (8)

THE CYLINDER HEAD ASSEMBLY		
N0.	PART NAME	PART NO.
1.	CYLINDER HEAD ASSY.	40058011
2.	VALVE STEM SEAL	40056002
3.	SEALING BALL	40070031
4.	HEXAGON SOCKET SCREW	SC050121291
5.	VALVE SPRING WASHER	40050140



Please clean up correlative parts and lubricate with 10W/40 oil
1.Knock the 2 balls (3) into cylinder head (1)
2.Paste the screw (4) with LT272 , tighten to cylinder head with 5Nm
3.Install the washer (5) on the valve spring seat
4.Knock valve stem seal (6) into valve guide , keep distance between the bottom of seal and the top of cylinder head within 12.7±0.5 mm

THE CYLINDER HEAD ASSEMBLY		
N0.	PART NAME	PART NO.
1.	VALVE (INTAKE)	40050133
2.	VALVE (EXHAUST)	40050134
3.	SPRING	40050135
4.	SPRING CAP	40050136
5.	COTTER	40056003



Please clean up correlative parts and lubricate with 10W/40 oil

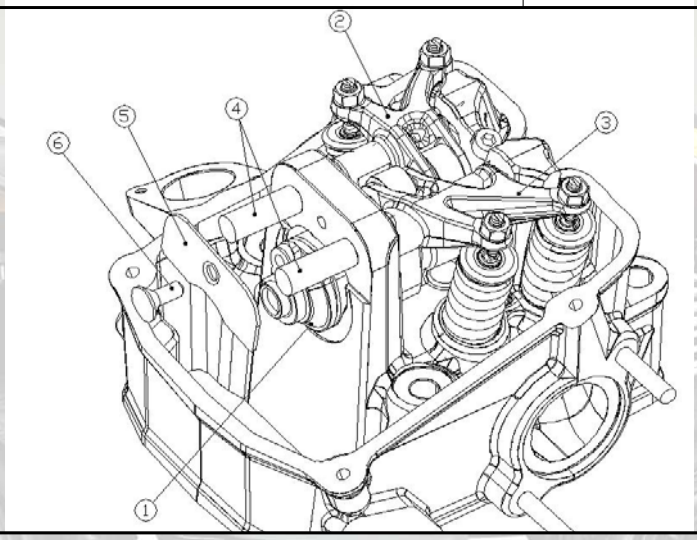
1.Install valve spring (3) x4 on the valve spring washer

2.Install cotter (5) x2 on the spring cap (4) (4pcs)

3.Install assembled spring cap (4) on the spring , with jig press it into the valve stem seals until a clear "click" sound was heard

4.check the cap is firmly installed on the stem with jig

THE CYLINDER HEAD ASSEMBLY		
N0.	PART NAME	PART NO.
1.	CAM SHAFT	40070068
2.	ROCKER ARM ASSY. (INTAKE)	40078016
3.	ROCKER ARM ASSY. (EXHAUST)	40078017
4.	SHAFT	40070063
5.	PLATE	40070065
6.	FLAT HEAD SCREW	SCF060160883



Please clean up correlative parts and lubricate with 10W/40 oil

1.Install cam (1) through cam bore

2.Install intake rocker (2) on the cam shaft , the rocker face toward intake side.

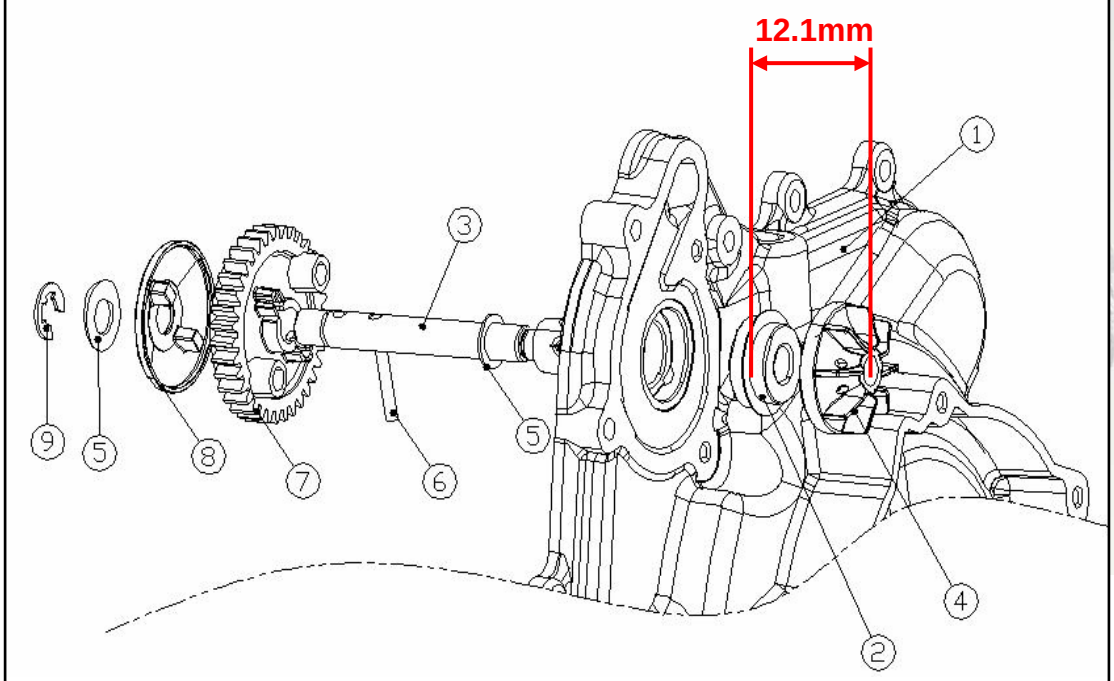
3.Install exhaust rocker (3) on the cam shaft , the rocker face toward exhaust side.

4.Install shaft rocker assy (4) x2 through intake rocker (2) and exhaust rocker (3)

5.Install the screw (6) through plate (5) and tighten to 9Nm , attention for the bottom of plate shall be clipped onto the groove of cam shaft.

6.Adjust the intake/exhaust valve gap to 0.3 mm.

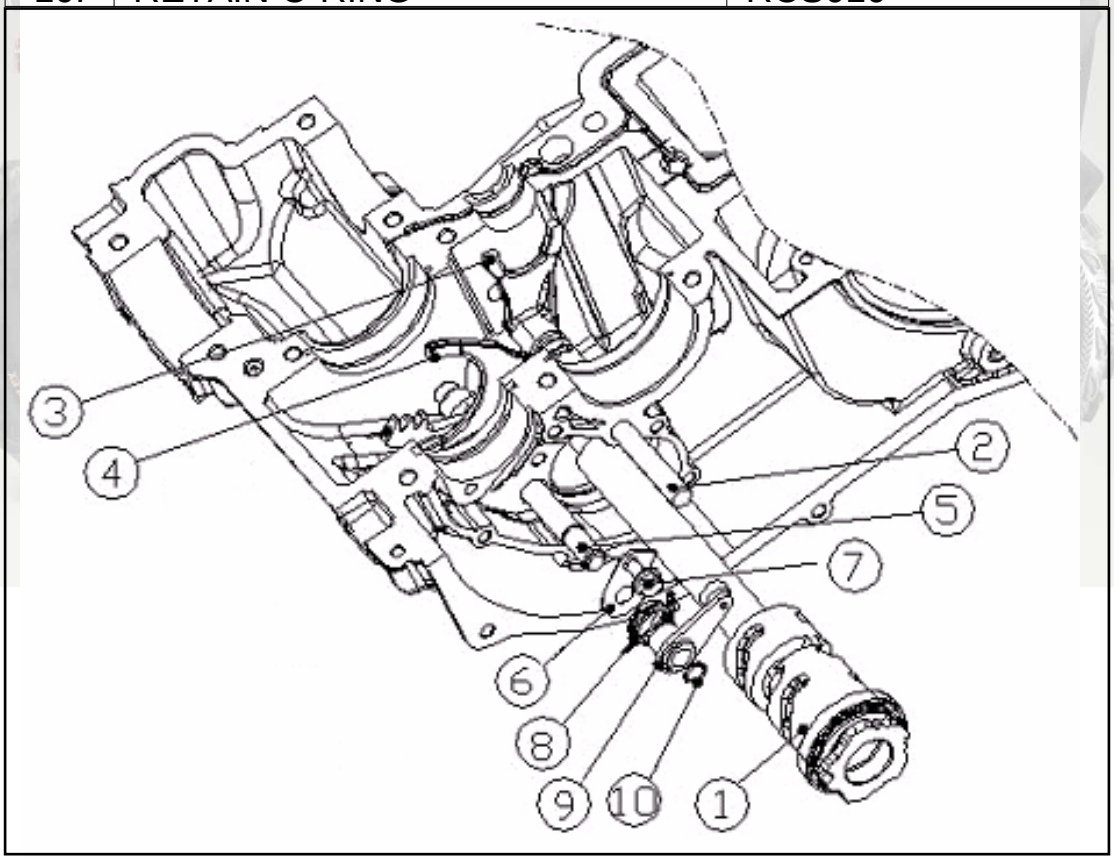
THE WATER PUMP ASSEMBLY		
N0.	PART NAME	PART NO.
1.	ACCESSORY COVER	40010053
2.	MECHANICLA SEAL	40136011
3.	SHAFT	40130075
4.	PROPELLER	40130071
5.	WASHER	40130077
6.	PIN	40130083
7.	GEAR (35T)	40130063
8.	CAP	40070064
9.	RETAIN C-RING	RCS012

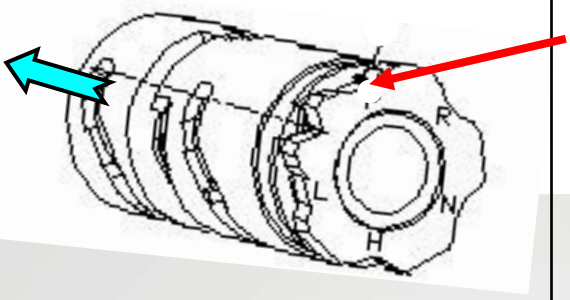
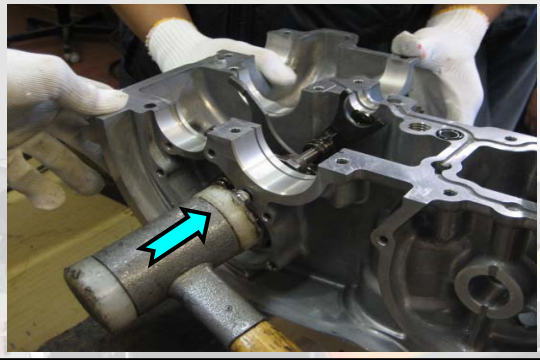


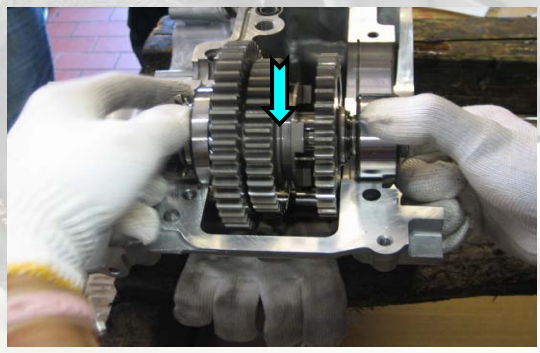
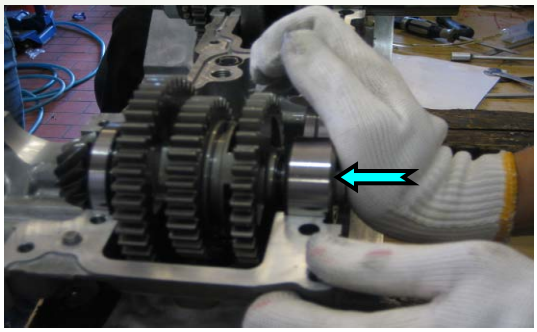
Please clean up correlative parts and keep dry

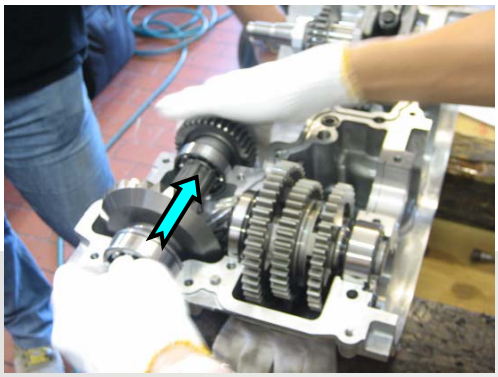
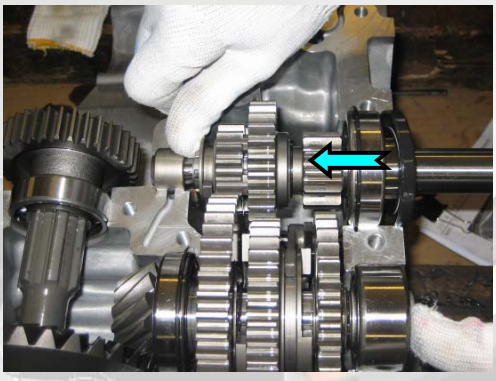
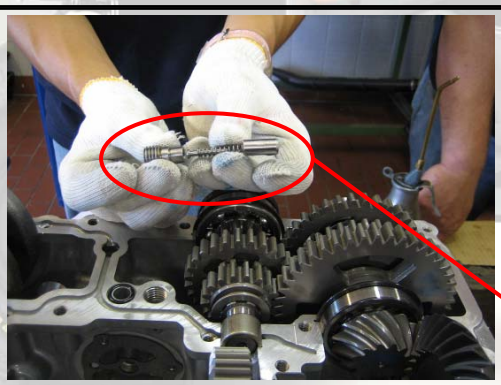
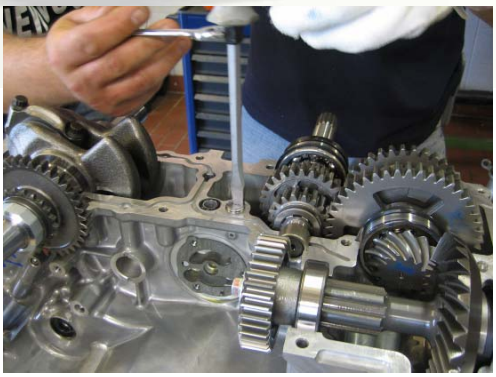
1.After install mechanical seal (2) on water pump shaft (3) and check the shaft have 12.1mm between mechanical seal and water pump shaft

THE SHIFT DRUM AND FORK ASSEMBLY		
N0.	PART NAME	PART NO.
1.	SHIFT DRUM ASSY.	46078002
2.	SHAFT (SHIFT FORK)	46070013
3.	SHIFT FORK (MAIN SHAFT)	46070001
4.	SHIFT FORK (LAY SHIFT)	46070002
5.	PARKING BREAK SHAFT	46070005
6.	THRUST PLATE	46070022
7.	BOLT	BFH060120884
8.	SHIFT LOCATING SPRING	46070015
9.	SPRING BLADE	46070014
10.	RETAIN C-RING	RCS010

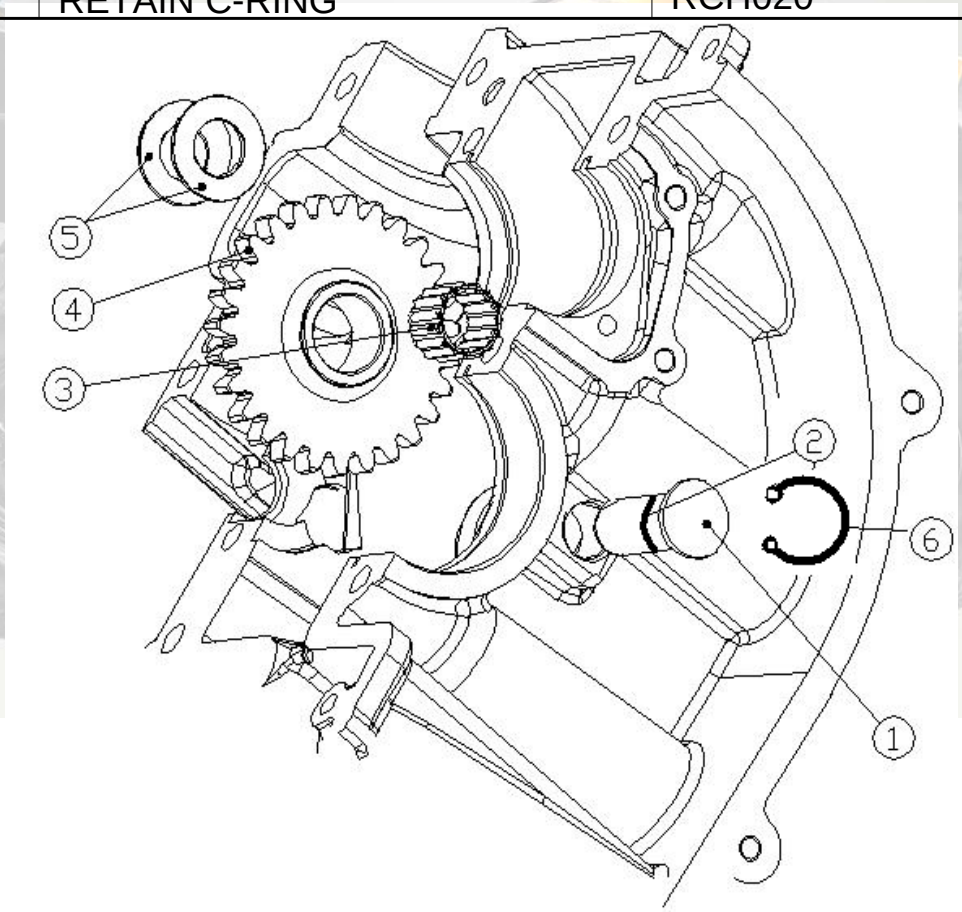


	Shift locating rotor install position
	Install fork shift by plastic hammer and all parts lubricate

THE TRANSMISSION GEAR ASSEMBLY	
	Install lay shaft to cylinder block
	Then push it to position

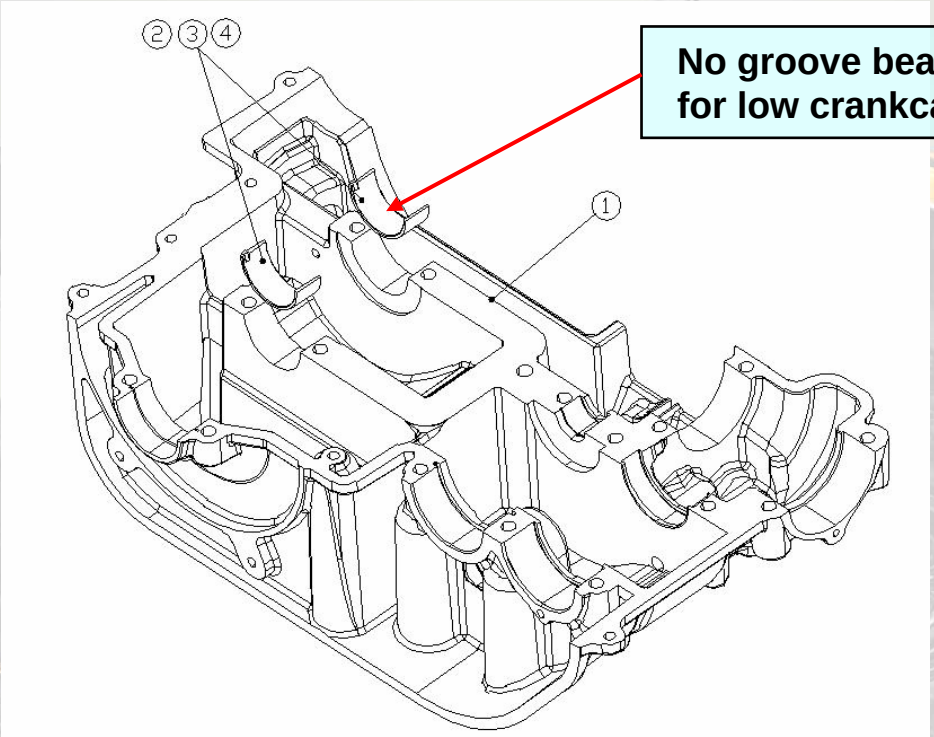
	Install rear drive shaft to cylinder block , then push it to position
	Install main shaft and push the needle bearing to position
	Lubricate oil release valve and install valve、spring guide into cylinder block 
	Then tighten the bolt ※Torque 10Nm

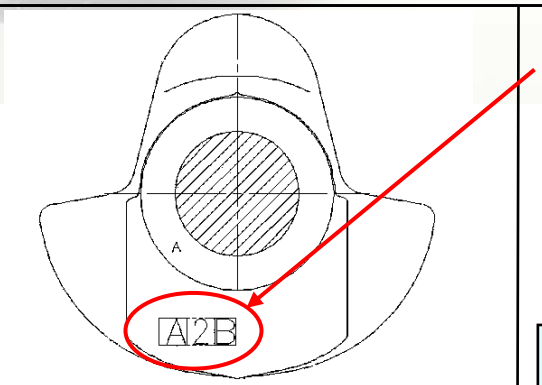
THE REAR IDLE GEAR ASSEMBLY		
N0.	PART NAME	PART NO.
1.	SHAFT	46030009
2.	O-RING	46030027
3.	NEEDLE BEARING	46030032
4.	REVERSE GEAR (27T)	46030006
5.	WASHER	46030011
6.	RETAIN C-RING	RCH020



Please clean up correlative parts and lubricate with 10W/40 oil

THE CRANKCASE AND CYLINDER BLOCK ASSEMBLY		
N0.	PART NAME	PART NO.
1.	CRANKCASE	40018014
2.	MAIN BEARING (BLACK)	888.4001.607
3.	MAIN BEARING (NO COLOR)	888.4001.608
4.	MAIN BEARING (GREEN)	888.4001.609



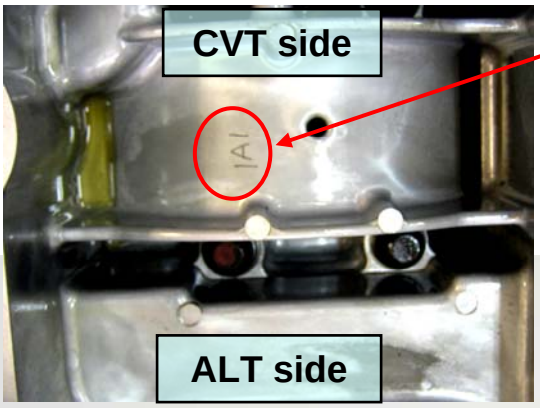


The crankshaft mark position , have 3 marks

EX：A 2 B

ALT side

CVT side



The cylinder block mark position , have 3 number

EX：1 A 1

		CYLINDER BLOCK		
		1	2	3
CRANKCASE	A	N	B	B
	B	G	N	B
	C	G	G	N

N：No color　　G：Green　　B：Black

Choose bearing color and install to crankcase

EX：cylinder block mark is　1 A 1
　　crankcase mark is　A 2 B

so we choose ALT side bearing color is No color (1&A)

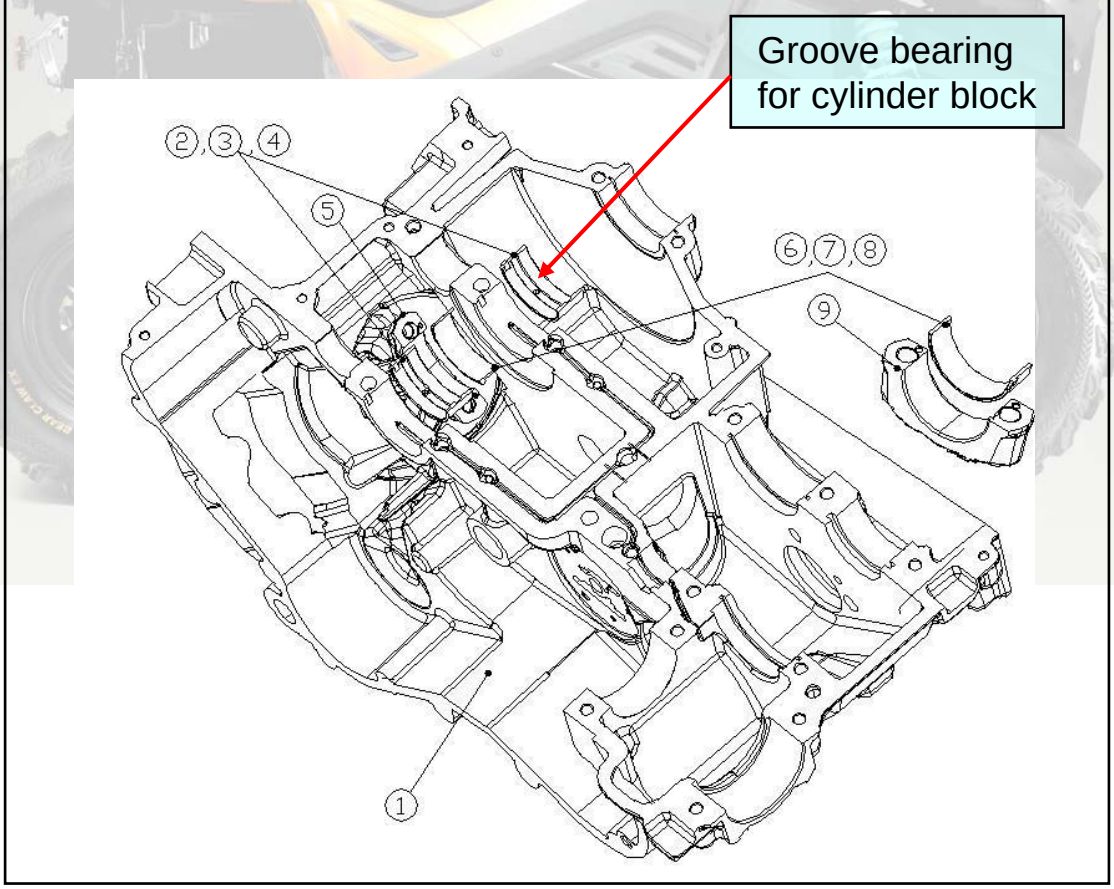
1 A 1
A 2 B

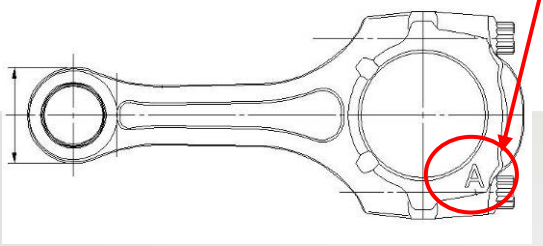
and CVT side bearing color is Green (1&B)

1 A 1
A 2 B

※up and low bearing install the same color

THE CRANKCASE AND CYLINDER BLOCK ASSEMBLY		
N0.	PART NAME	PART NO.
1.	CYLINDER BLOCK	40018014
2.	MAIN BEARING (BLACK)	888.4001.613
3.	MAIN BEARING (NO COLOR)	888.4001.614
4.	MAIN BEARING (GREEN)	888.4001.615
5.	CONROD ASSY.	40098013
6.	BEARING (BLACK)	40096025
7.	BEARING (YELLOW)	40096024
8.	BEARING (BLUE)	40096023





The connecting rod mark position

EX：A

		CONNECTING ROD	
		A	B
CRANKCASE	1	Y	B
	2	BL	Y

Y：Yellow　BL：Blue　B：Black

Choose bearing color and install to connecting rod

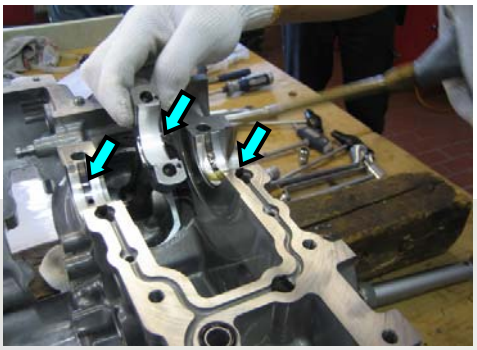
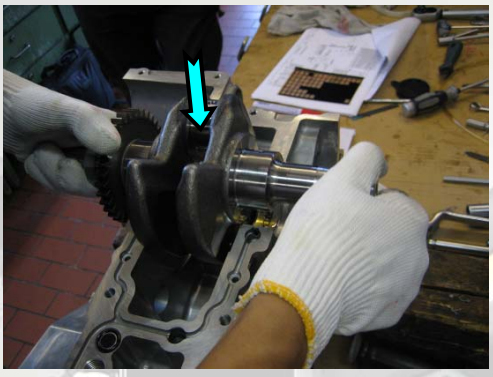
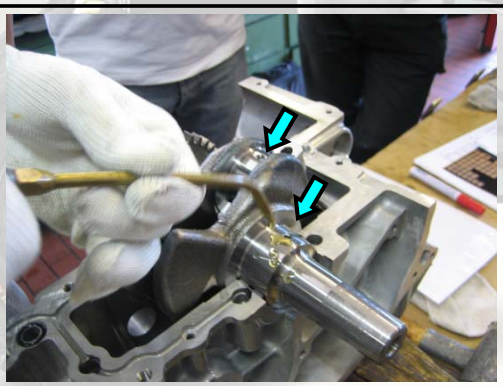
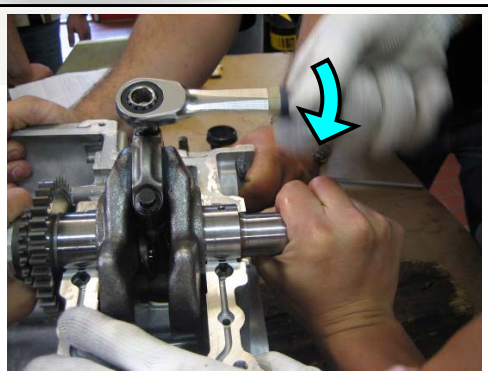
EX：connecting rod mark is　A
crankcase mark is　A 2 B

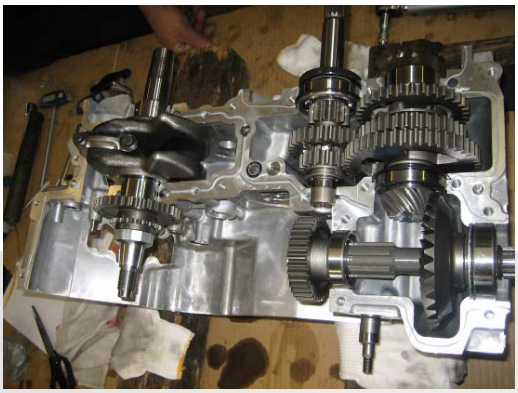
so we choose the bearing color is blue (A&2)

A
A 2 B

※up and low bearing install the same color

THE BEARING AND CRANKSHAFT ASSEMBLY

	Lubricate all bearing
	Install crankshaft
	Lubricate all rotation position
	Before tighten the two bolts , be lubricate connecting rod bolts ※Torque 20Nm + 90° + 90° (tighten the two bolts equally)

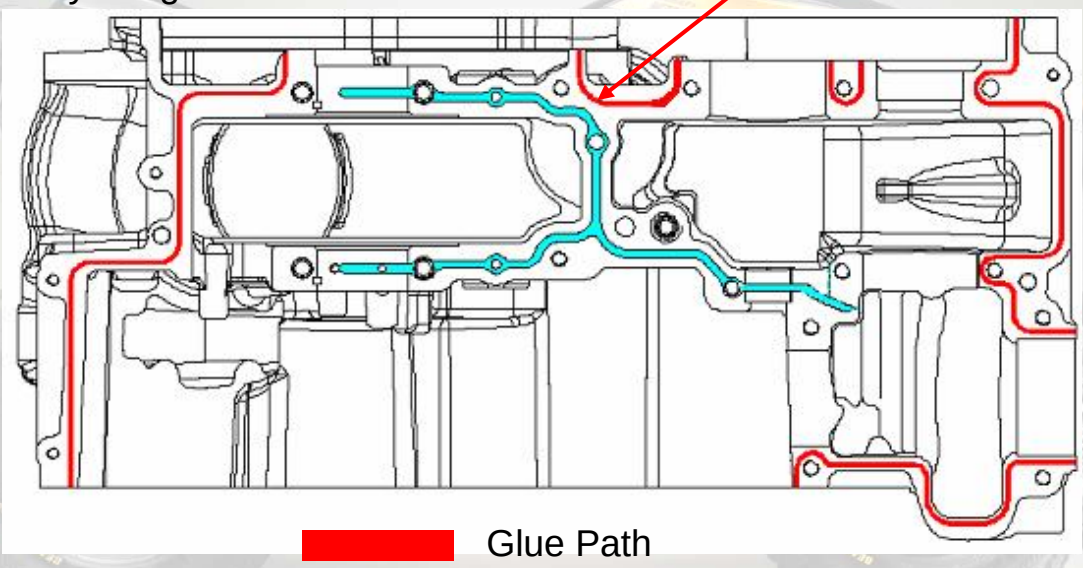


Lay the Case Assembly Glue on cylinder block according figure A and glue diameter about 1mm

Figure A

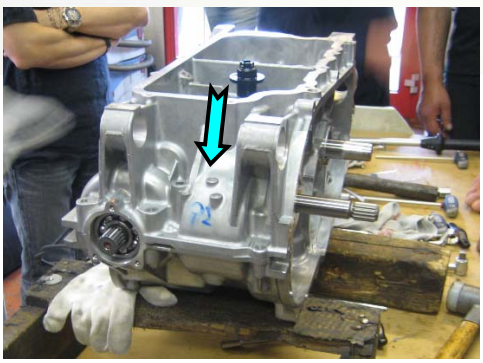
Keep away the main gallery

Lay the glue diameter about 1mm

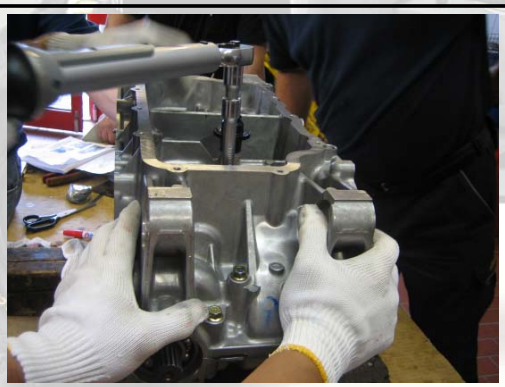


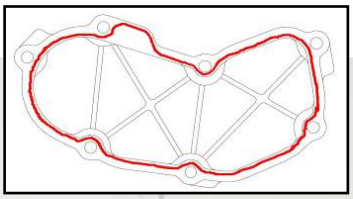
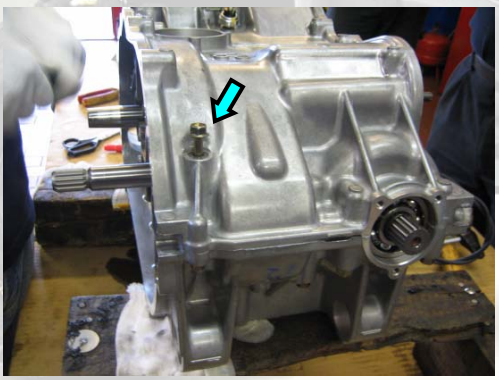
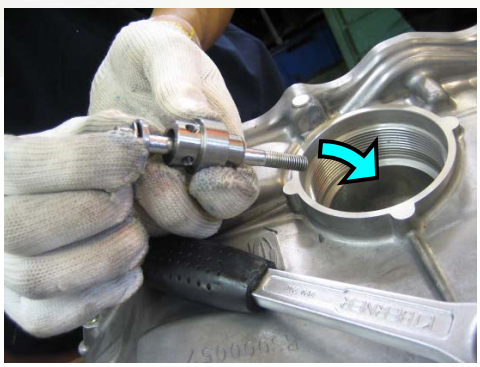
Glue Path

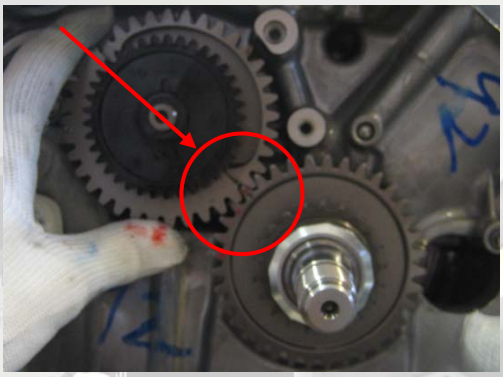
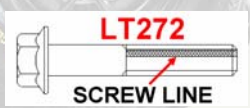
Main Gallery

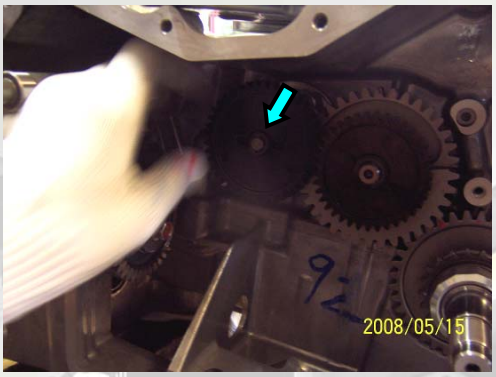
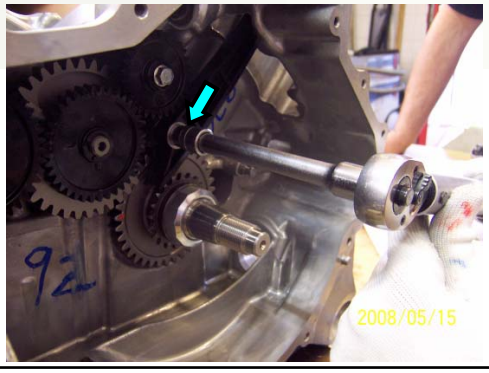


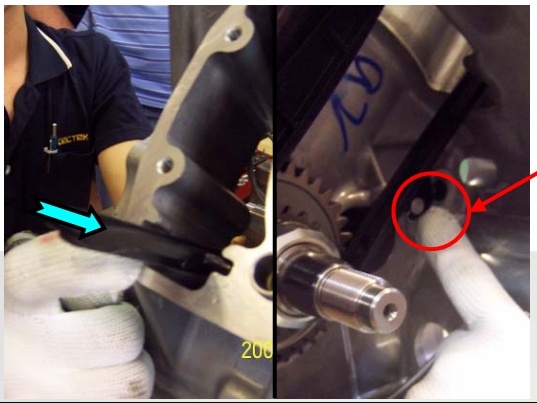
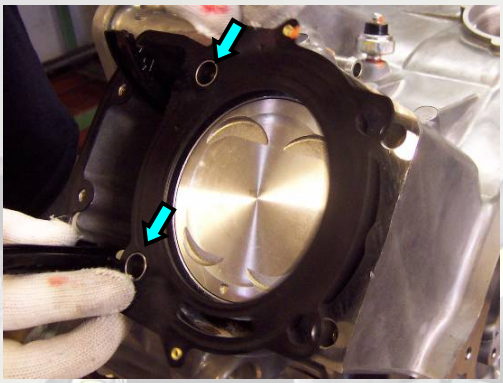
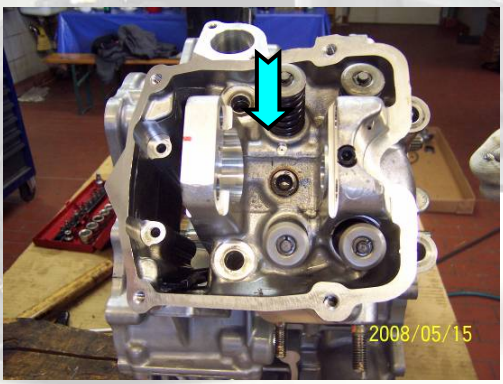
Install crankcase to cylinder block

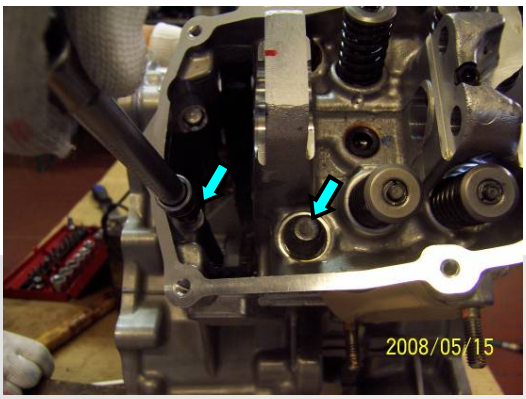
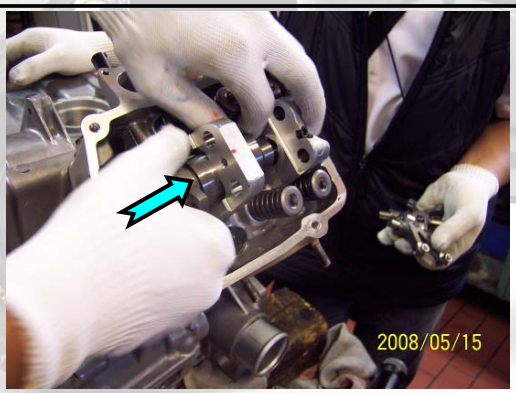
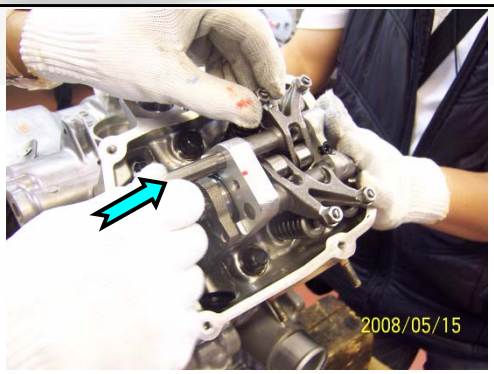
	Lubricate the bolt and washer, then tighten it ※Torque 35Nm + 90° (tighten the bolts equally)
	Install the cylinder block bolts
	The tighten torque 20Nm
	Install shift drum anti-thrust plate ※Torque 10Nm

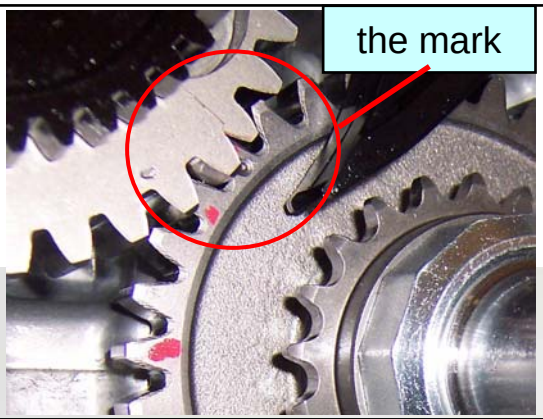
	Lay the *Case Assembly Glue* on shift drum cover ※Glue diameter about 1mm 
	Install the shift drum cover ※Torque 10Nm
	Reverse the engine , then tighten the cylinder bolt ※Torque 20Nm
	Install the main circuit ※Torque 20Nm 

	Lubricate the balancer
	Install balancer gear , then check crankshaft gear mark to balancer half of gear position
	Lay the Bolt Glue on the bolt , then install the balancer plate ※Torque 20Nm 
	Lubricate the oil pump and rotor

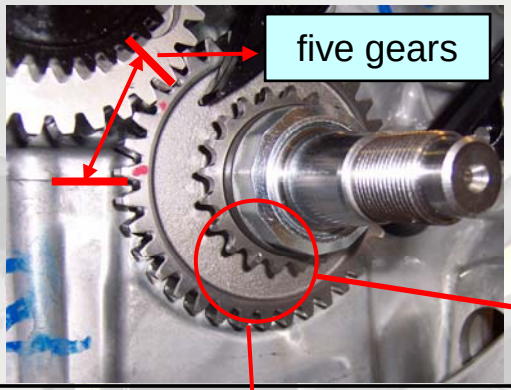
	※ The bolts torque 10Nm
	Install the oil pump gear , then clip the E-clip
	Install the water pump idle gear , then tighten the bolt ※Torque 10Nm
	Install the chain guide ※Torque 10Nm

	Install the chain guide into cylinder block and notice the lock position
	Install the cylinder head gasket and lock pins
	Install the cylinder head
	Lubricate the cylinder head bolts and washer

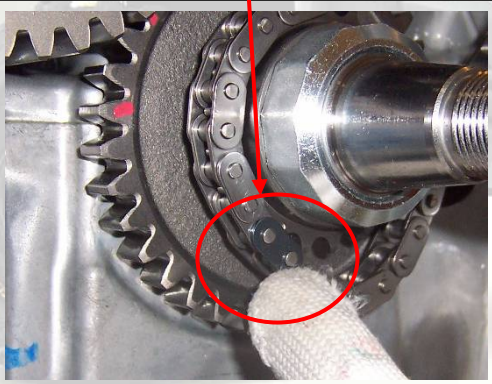
	Tighten the cylinder bolts ※Torque 35Nm + 90° + 90° (tighten the four bolts equally) ※The M6 bolts torque 10Nm
	Lubricate cam shaft
	Install the cam shaft into cylinder head
	Lubricate the rock arms and shafts , then install into cylinder head



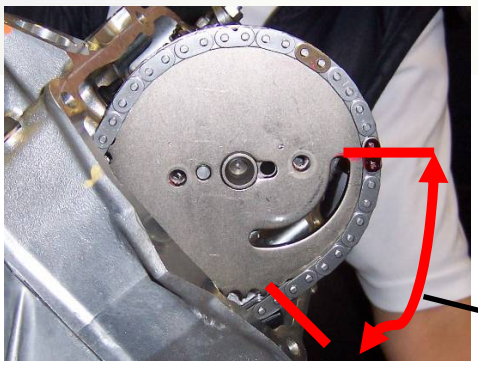
Check the crankshaft gear mark and balancer mark



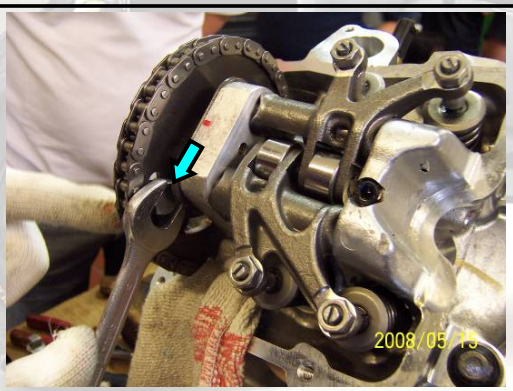
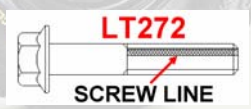
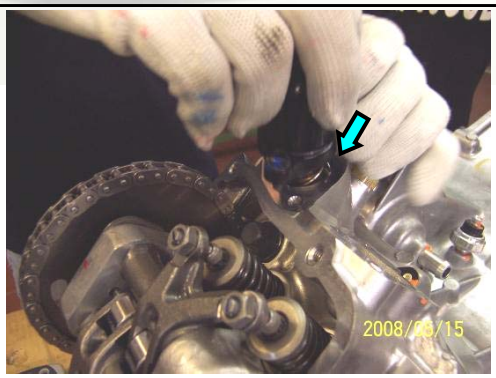
Between balancer mark to crankcase mark line have five gears

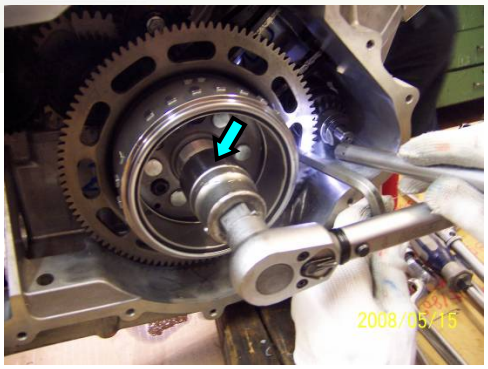


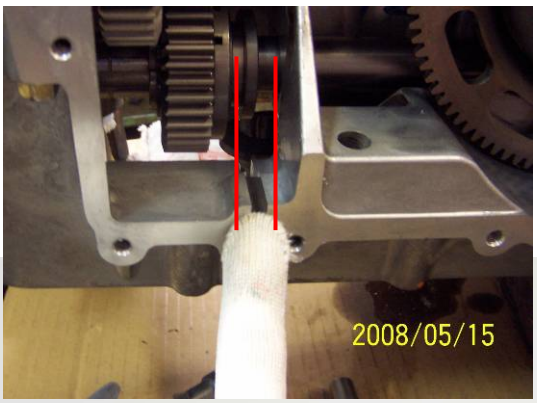
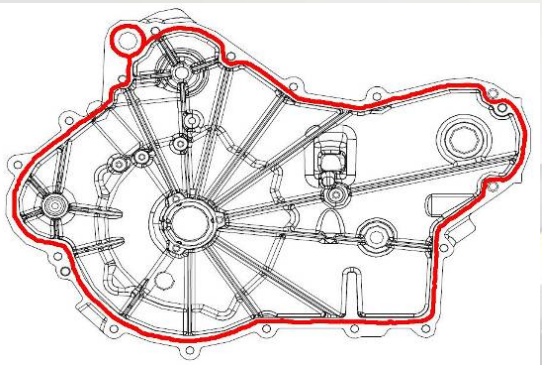
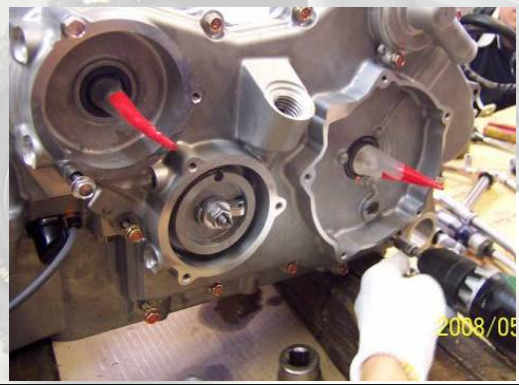
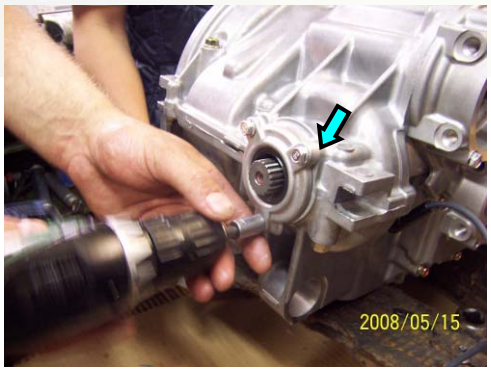
Crank sprocket mark must correct to blue mark of chain

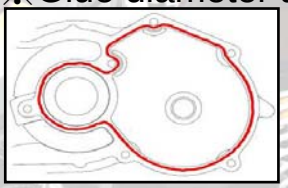
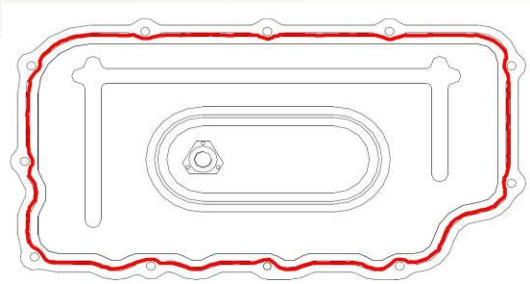


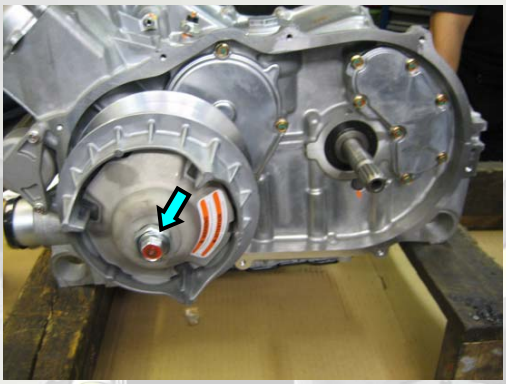
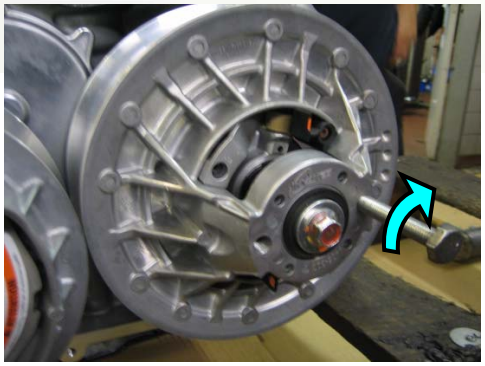
When crank sprocket mark correct , then check cylinder head sprocket have six pieces counter from cylinder head

	Install the tensioner and tighten the bolts , then put the spring and screw the cover ※The bolts torque 10Nm ※The cover torque 10Nm
	Install discompressor
	Lay Bolt Glue LT272 on discompressor bolt , then screw it ※Torque 5Nm 
	Install the thermostat ※Torque 10Nm

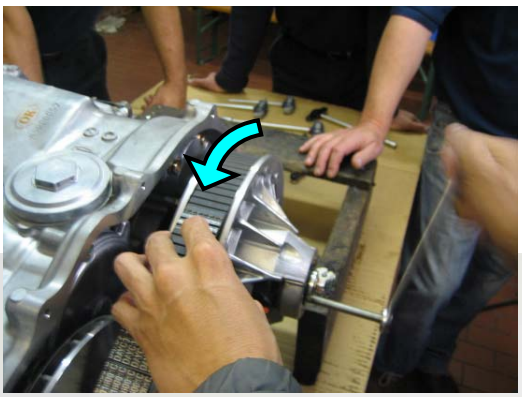
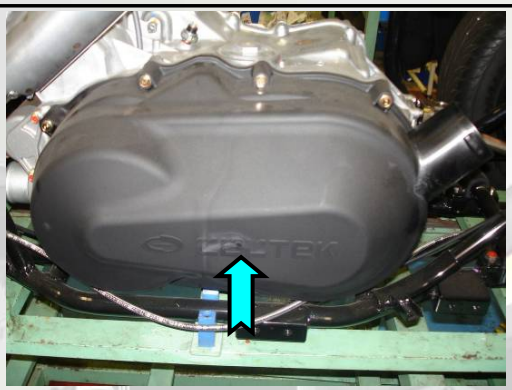
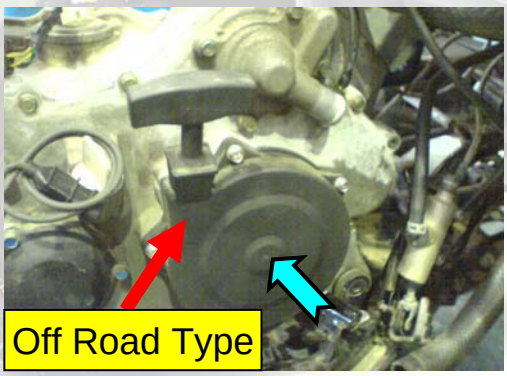
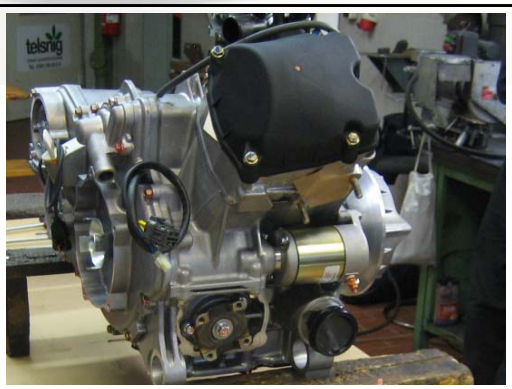
	Install the cylinder head cover , then tighten the bolts ※Torque 10Nm
	Install the spark plug ※Torque 10~12Nm
	Lubricate the spin nose , then install into cylinder block
	Install the fly wheel assy. and ALT rotor , then tighten the nut ※Torque 200Nm

	Check 4WD gear groove correct to low crankcase groove
	Lay the Case Assembly Glue on accessary cover ※Glue diameter about 1mm
	Install accessary cover , then tighten the bolts ※Torque 10Nm
	Install the drive shaft seal cover , then tighten the bolts ※Torque 10Nm

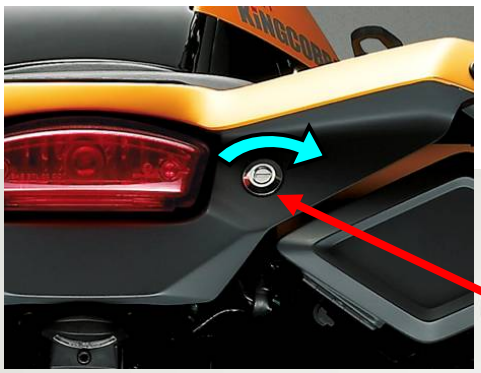
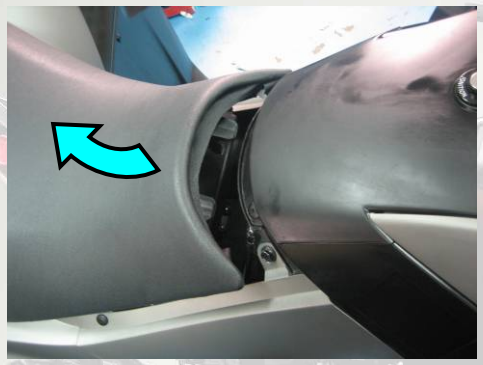
	Lay the Bolt Glue on drive yoke bolt , then install drive yoke ※Torque 20Nm
	Lay the Case Assembly Glue on balancer cover ※Glue diameter about 1mm 
	Install balancer cover , then tighten the bolts ※Torque 10Nm
	Lay the *Case Assembly Glue* on oil sump cover ※Glue diameter about 2mm

	Install oil sump , then tighten the bolts ※Torque 10Nm
	Install the CVT drive pulley , then tighten the bolt ※Torque 120Nm
	Install the driven pulley , then tighten the bolt ※Torque 45Nm
	Tighten the Belt Removal Tool to end to open the driven pulley , then install the belt

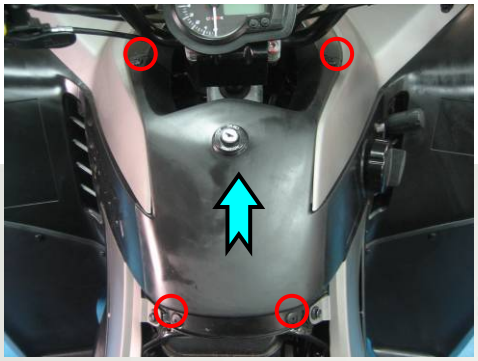
ENGINE - Assembly

	Then rotate driven pulley check the belt on position ※The driven pulley can be free rotate
	Install the CVT cover , then tighten the bolts ※Torque 10Nm
 Off Road Type	Install the rewind starter, Then tighten the bolts ※Torque 10Nm  On Road Type
	The engine assembly complete

CHASSIS

SEAT DISMANTLE	
	Use the key to open the seat lock
	Remove the seat
	The seat
	The tool bag under the seat

AIR CLEANER COVER DISMANTLE

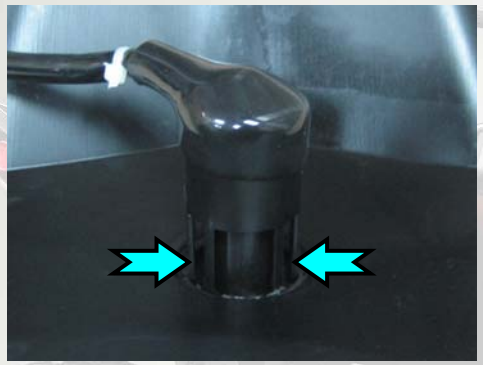


Dismantle the rivets,
and pull out the air cleaner cover

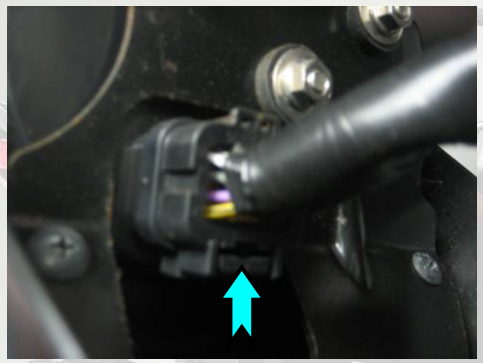
⚠ Warning

Dismantle the connector of main switch

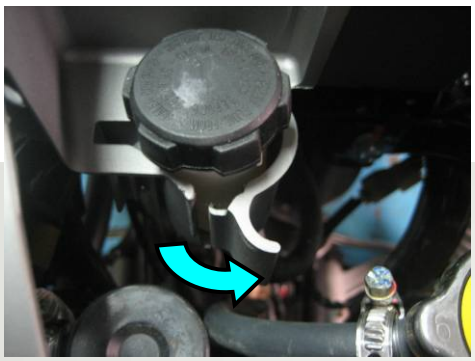
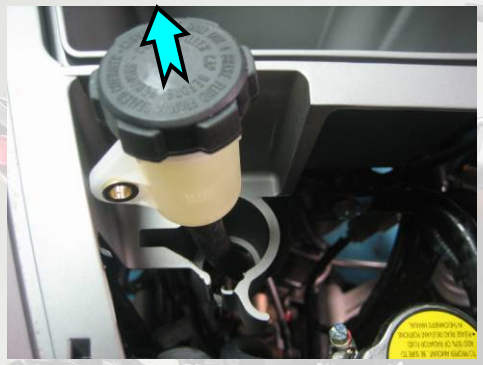
Air cleaner cover assembly

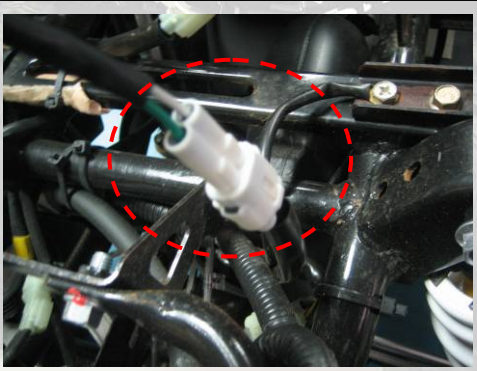
AIR CLEANER COVER DISMANTLE	
	Dismantle the cover, then turn it over
	Press the flange, then remove the main switch
	The main switch

FRONT DECK DISMANTLE	
	Dismantle the rivets of front deck
	Pull out the front deck
	The front deck
	The front box

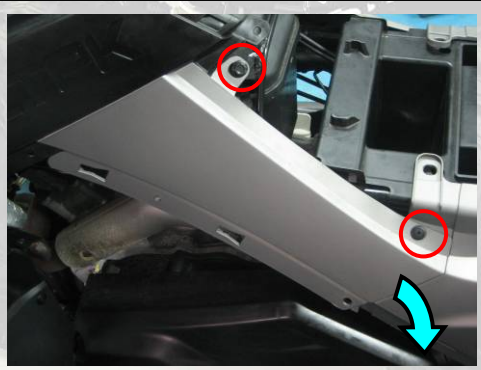
METER DISMANTLE	
	Dismantle the bolts of bracket ※Torque = 10 Nm
	Push the pin to dismantle the connector
	⚠ Warning Be careful about the orange O-ring of the wire harness connector
	The meter

METER DISMANTLE	
	Dismantle the meter, then turn it over
	Dismantle the screws, then remove the cover
	The meter cover

FRONT COVER DISMANTLE	
	Release the tenon from the brake oil reservoir
	Pull out the brake oil reservoir
	Dismantle the bolt ※Torque = 10 Nm
	Dismantle the screws from two sides of the cover

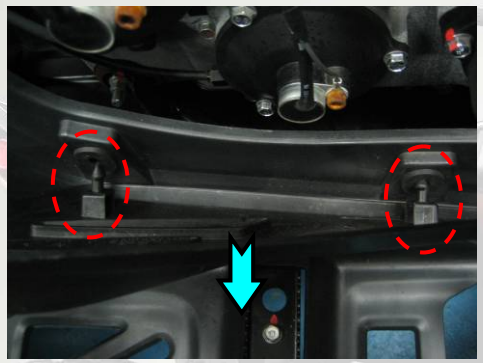
FRONT COVER DISMANTLE	
	Dismantle the screws under the front cover from the two sides of the cover
	Pull out the front cover
	⚠ Warning Dismantle the connector of power supply
	The front cover

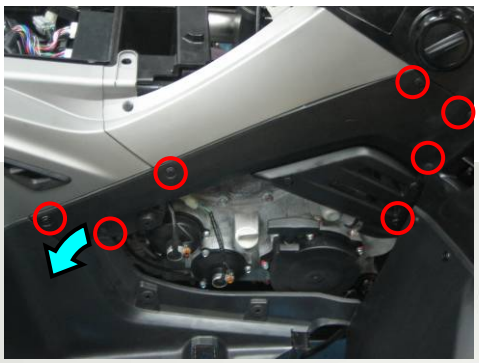
FRONT COVER DISMANTLE	
	Dismantle the front cover, then turn it over
	Turn counterclockwise to dismantle the power supply
	The power supply

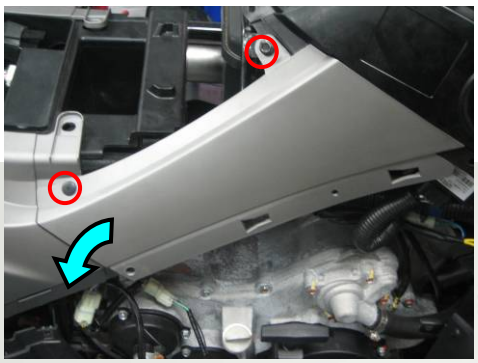
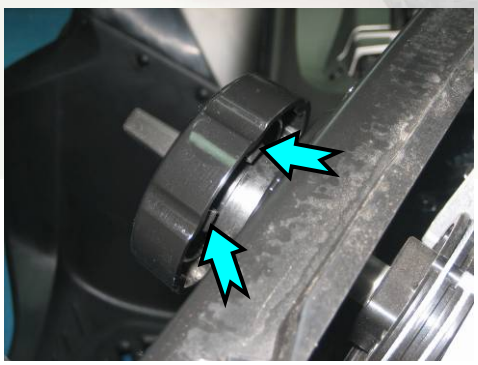
LHS COVER DISMANTLE	
	Dismantle the rivets & screw, then pull out the panel
	The mudguard panel, LH
	Dismantle the bolt & rivet, then pull out the left side cover
	The side panel, LH

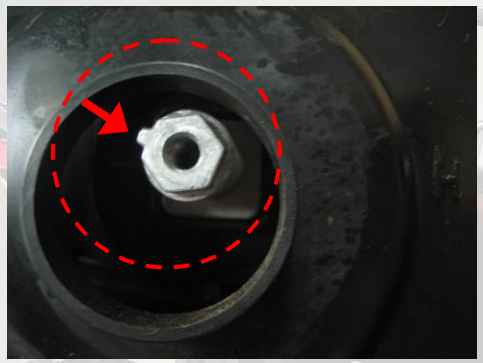
LHS COVER DISMANTLE	
	Dismantle the screws
	Release the tenon of left cover
	Then pull out the cover
	The side cover, LH

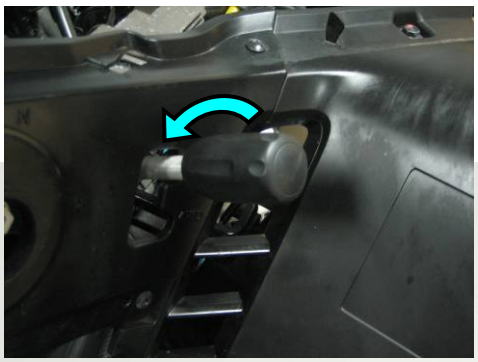
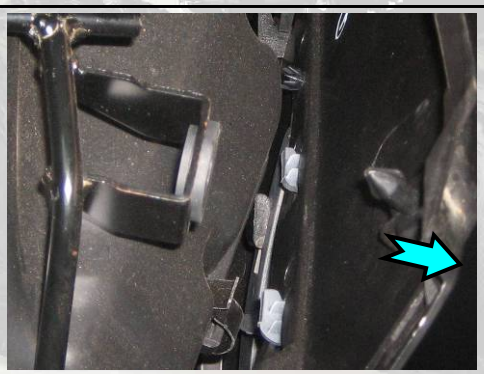
LHS COVER DISMANTLE	
	Dismantle the bolts, then remove the cover
	The engine cover, LH

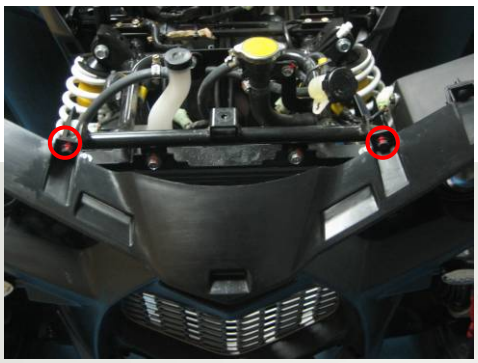
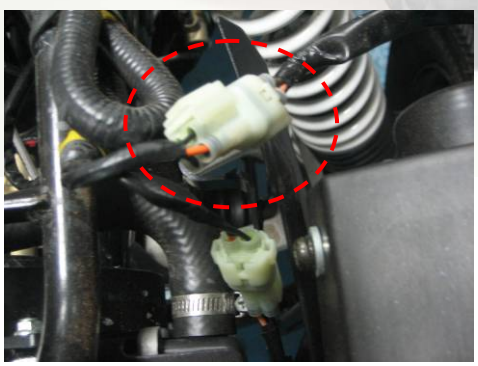
RHS COVER DISMANTLE	
	Dismantle the rivet
	Release the tenon, then pull out the cover
	The engine cover, RH

RHS COVER DISMANTLE	
	Dismantle the rivets and screw, then remove the panel
	The mudguard panel, RH
	Dismantle the rivets, then remove the cover
	The upper engine cover, RH

RHS COVER DISMANTLE	
	Dismantle the bolt and rivet, then remove the panel
	The panel
	Dismantle the screws
	Push the revolve lever from the cover inside

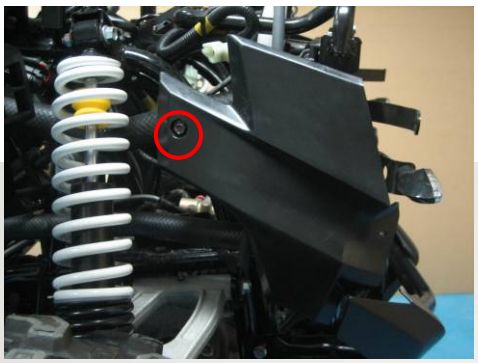
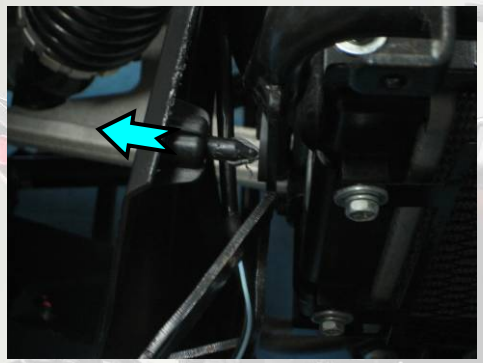
RHS COVER DISMANTLE	
	Dismantle the center bolt from the revolve lever ※Torque = 10 Nm
	Revolve lever alignment
	Opposite side of revolve lever
	The revolve lever and button

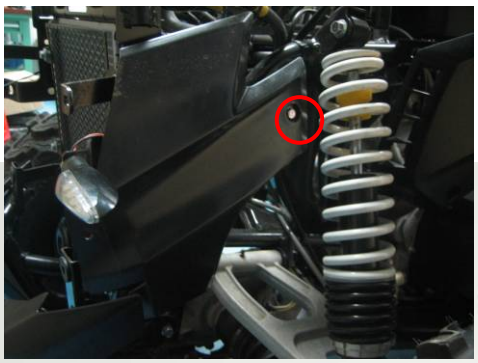
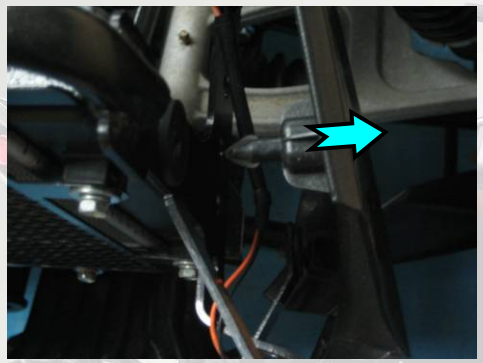
RHS COVER DISMANTLE	
	Screw contraclockwise the shift bar (2/4WD) of the rod
	The shift bar (2/4WD)
	Release the tenon, then pull out the cover
	The side cover, RH

HEAD LAMP DISMANTLE	
	Dismantle the bolts ※Torque = 10 Nm
	Dismantle the screws from the two sides of the cover
	Dismantle the screws from the two side of the cover
	⚠ Warning Dismantle the head lamp connector

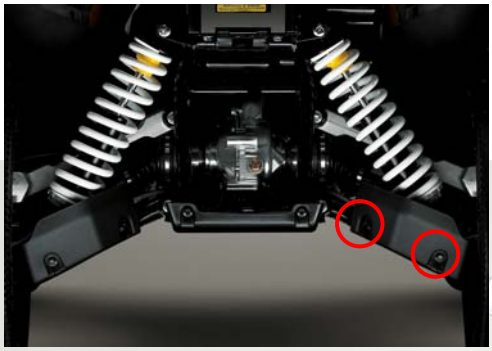
HEAD LAMP DISMANTLE	
	The front nose
	Turn it over
	Press the tenon, then remove the grille
	The grille

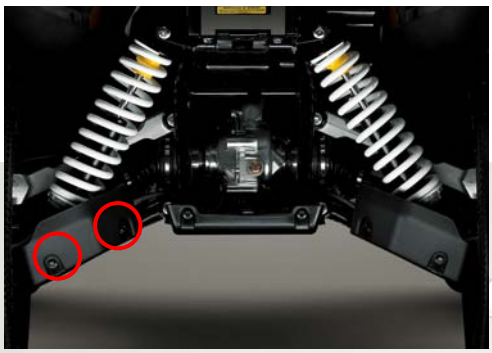
HEAD LAMP DISMANTLE	
	Dismantle the screws from the back of the lamp
	Dismantle the screw from the front of the lamp
	The head lamp assy
	The head lamp angle adjustment bolt ※Upper = clockwise Lower = counterclockwise

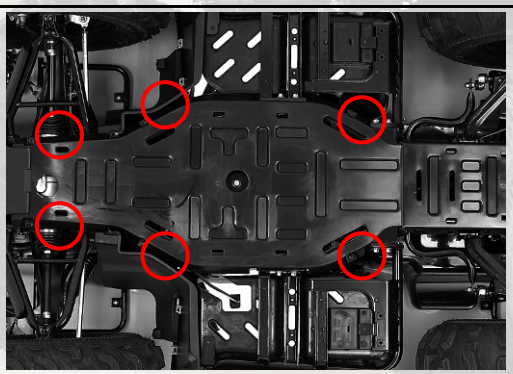
UPPER MUDFLAP DISMANTLE	
	Dismantle the bolt ※Torque = 10 Nm
	Pull out the tenon, then remove the mudflap
	The upper mudflap, R

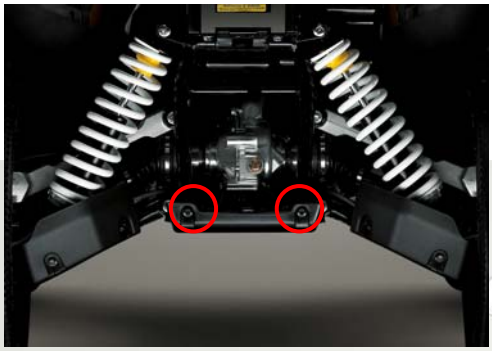
UPPER MUDFLAP DISMANTLE	
	Dismantle the bolt ※Torque = 10 Nm
	Pull out the tenon, then remove the mudflap
	Upper mudflap, L

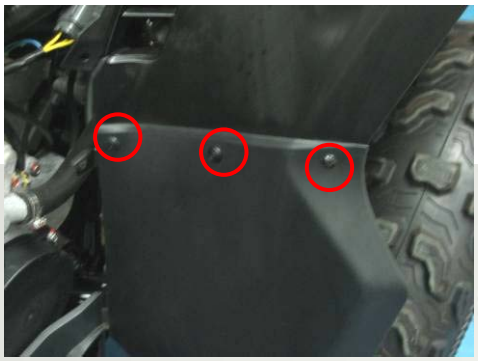
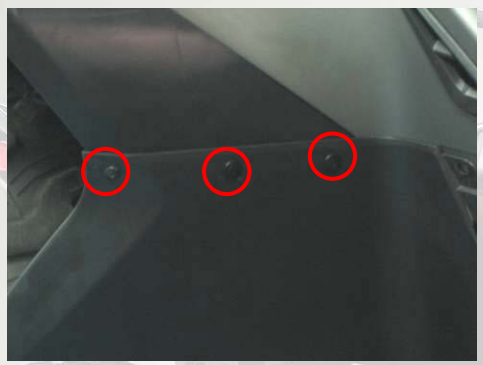
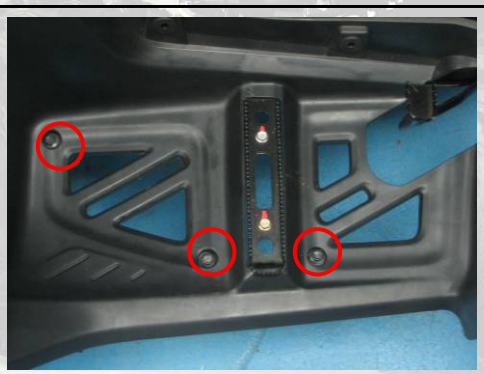
PROTECTOR DISMANTLE	
	Dismantle the bolts, Then remove the cover ※Torque = 10 Nm
	The protector cover, RHF
	Dismantle the bolts, then remove the cover
	The protector cover, LHF

PROTECTOR DISMANTLE	
	Dismantle the bolts ※Torque = 10 Nm
	Dismantle the bottom bolt, then remove the cover ※Torque = 10 Nm
	The protector cover, RHR

PROTECTOR DISMANTLE	
	Dismantle the bolts ※Torque = 10 Nm
	Dismantle the bottom bolt, then remove the cover ※Torque = 10 Nm
	The protector cover, LHR

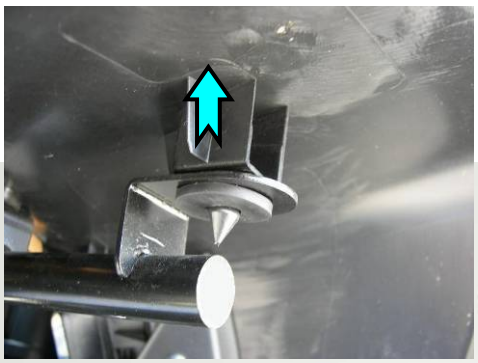
PROTECTOR DISMANTLE	
	Dismantle the bolts, Then remove the cover ※Torque = 10 Nm
	The front protector cover
	Dismantle the bolts, then remove the cover ※Torque = 10 Nm
	The engine protector cover

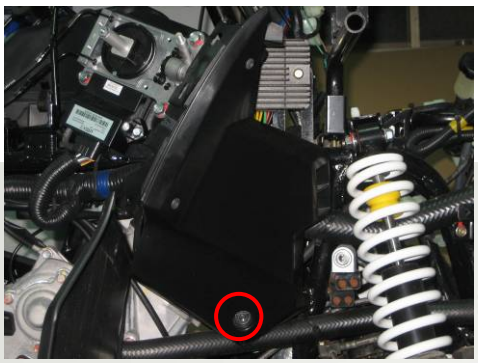
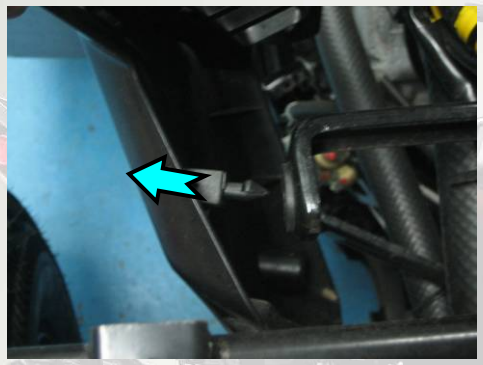
PROTECTOR DISMANTLE	
	Dismantle the rear bolts ※Torque = 10 Nm
	Dismantle the bolts from two sides of the cover ※Torque = 10 Nm
	The rear protector cover

FOOT REST PEDAL DISMANTLE	
	Dismantle the rivets and screw of the front
	Dismantle the rivets and screw of the rear
	Dismantle the bottom bolts, Then remove the right foot rest ※Torque = 10 Nm
	The right foot rest

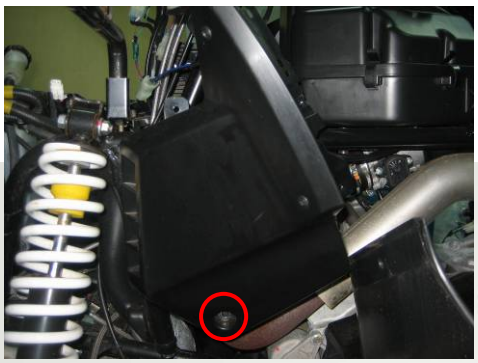
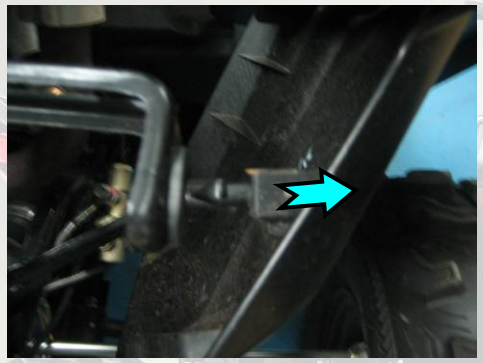
FOOT REST PEDAL DISMANTLE	
	Dismantle the rivets and screw of the front
	Dismantle the rivets and screw of the rear
	Dismantle the bottom bolts, then remove the left foot rest ※Torque = 10 Nm
	The left foot rest

FRONT FENDER DISMANTLE	
	Pull out the tenon
	Dismantle the upper bolt, then remove the fender ※Torque = 10 Nm
	The front fender, RH

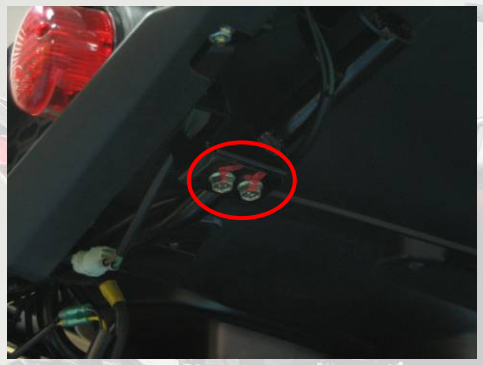
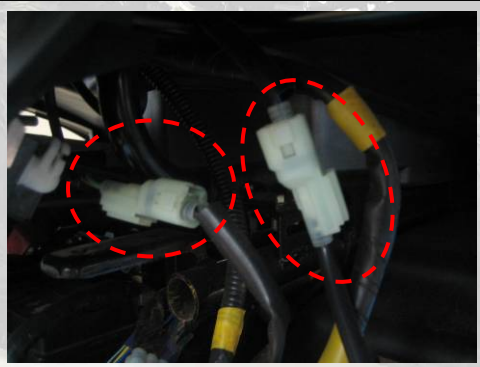
FRONT FENDER DISMANTLE	
	Pull out the tenon
	Dismantle the upper bolt, then remove the fender ※Torque = 10 Nm
	The front fender, LH

INNER MUDFLAP DISMANTLE	
	Dismantle the bolt ※Torque = 10 Nm
	Pull out the tenon, then remove the mudflap
	The inner mudflap, RH

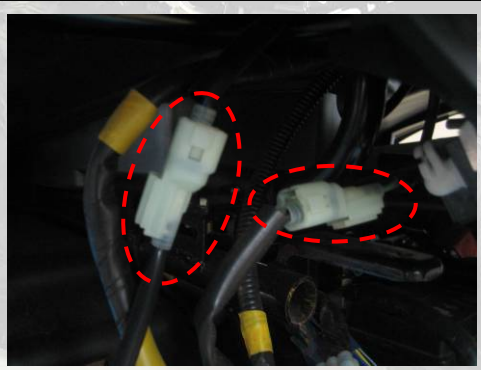
INNER MUDFLAP DISMANTLE	
	The inner mudflap, RH
	Dismantle the screws, then remove the ventilator
	The ventilator, RH

INNER MUDFLAP DISMANTLE	
	Dismantle the bolt ※Torque = 10 Nm
	Pull out the tenon, then remove the mudflap
	The inner mudflap, LH

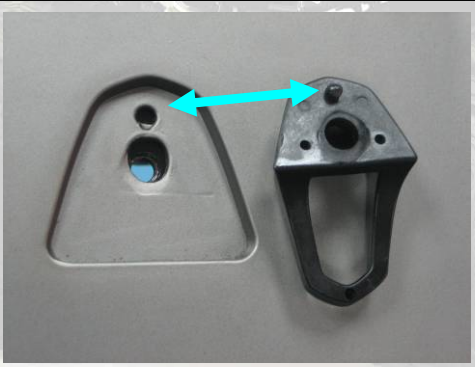
INNER MUDFLAP DISMANTLE	
	The inner mudflap, LH
	Dismantle the screws, then remove the ventilator
	The ventilator, LH

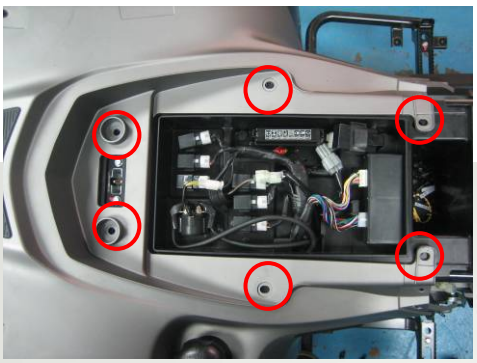
REAR LAMP DISMANTLE	
	Dismantle the rivet
	Dismantle the bottom bolts of the bracket
	⚠ Warning Dismantle the connectors
	The rear lamp housing, RH

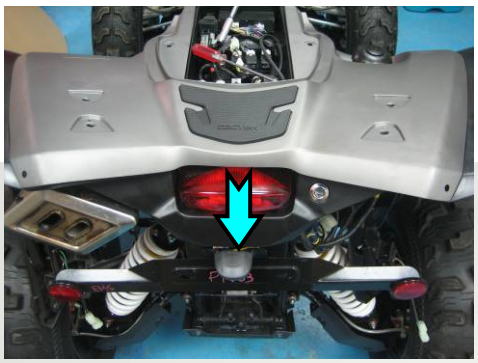
REAR LAMP DISMANTLE	
	Turn the lamp housing over
	Dismantle the bolts, then remove the cover
	The rear lamp cover, RH
	The rear lamp, RH

REAR LAMP DISMANTLE	
	Dismantle the screw
	Dismantle the bottom bolts of the bracket
	⚠ Warning Dismantle the connectors
	The rear lamp housing, LH

REAR LAMP DISMANTLE	
	Turn the lamp housing over
	Dismantle the screws, then remove the cover
	The rear lamp cover, LH
	The rear lamp, LH

REAR COVER DISMANTLE	
	Dismantle the bolts, then remove the hooks ※Torque = 10 Nm
	The hook, carrier
	The hook alignment
	Dismantle the bottom screws from two sides of rear cover

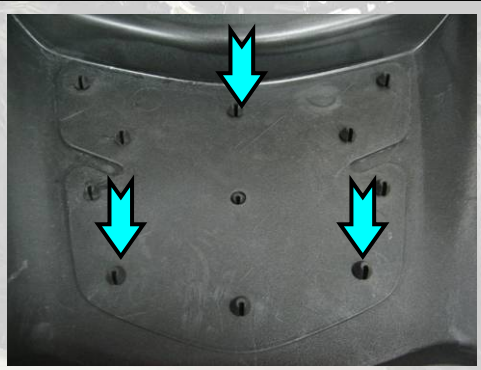
REAR COVER DISMANTLE	
	Dismantle the upper bolts ※Torque = 10 Nm
	Screw out the fuel cap
	⚠ Warning Avoid any dirt, Cover the fuel tank
	The fuel cap

REAR COVER DISMANTLE	
	Pull up the rear cover
	⚠ Warning Avoid any dirt, reinstall the fuel cap
	The rear cover

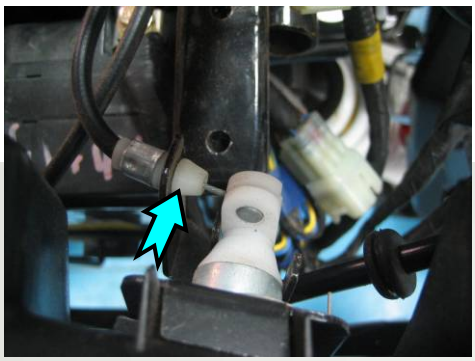
REAR COVER DISMANTLE	
	Turn over the rear cover
	Dismantle the screws
	Push the tenon, then remove the cover
	The rear cover, RH

REAR COVER DISMANTLE	
	Turn over the rear cover
	Dismantle the screws
	Push the tenon, then remove the cover
	The rear cover, LH

REAR COVER DISMANTLE	
	Dismantle the rear cover
	The mesh
	Turn over the rear cover, then push the tenon
	The meshes (RHS & LHS)

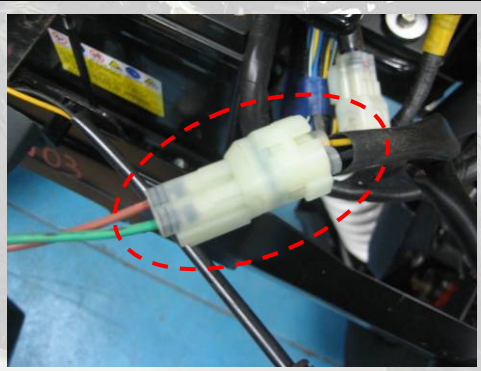
REAR COVER DISMANTLE	
	Dismantle the rear cover
	The slipproof on the rear cover
	Turn over the rear cover, then push the tenon to remove the slipproof
	The slipproof pad

TAIL LAMP ASSEMBLY DISMANTLE



Pull out the wire,
then remove the seat wire

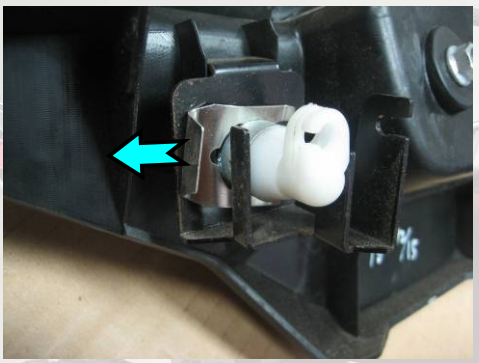
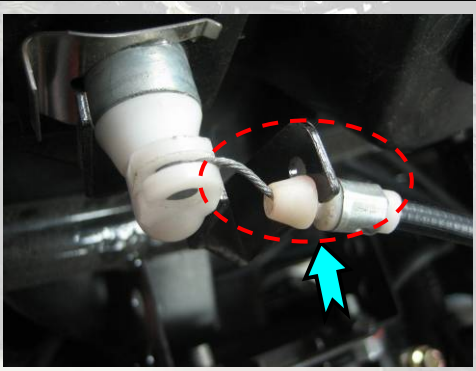
Dismantle the bottom bolt
from two sides of bracket



⚠ Warning

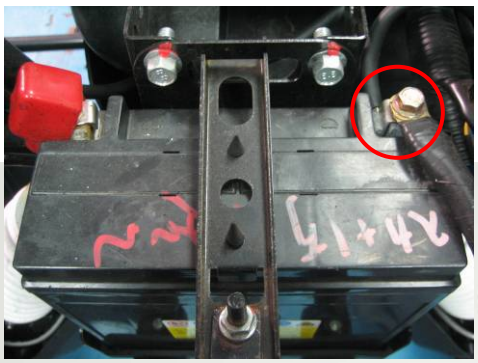
Dismantle the connector,
then remove the tail lamp

The tail lamp assy.

TAIL LAMP ASSEMBLY DISMANTLE	
	Turn over the tail lamp
	Pull out the plate of lock
	⚠ Warning When reinstall the wire, make sure the wire into the position
	The lock

TAIL LAMP ASSEMBLY DISMANTLE	
	Turn over the lamp
	Dismantle the nuts ※Torque = 10 Nm
	The tail lamp

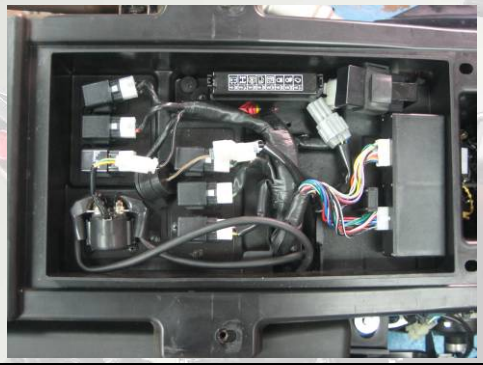
ELECTRICAL HOUSING DISMANTLE



⚠ Warning

Dismantle the negative wire, to protect the electrical parts

※Torque = 10 Nm

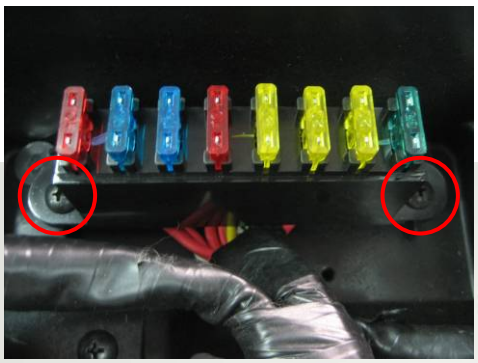
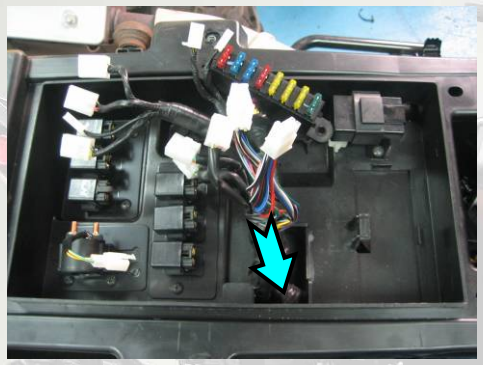
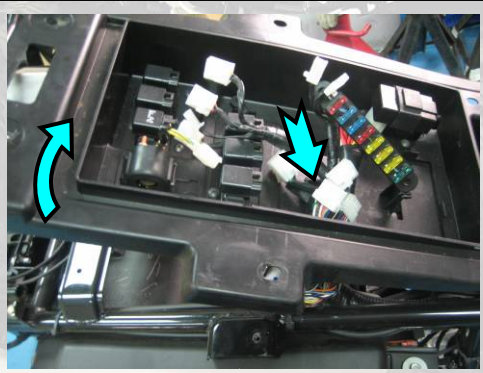
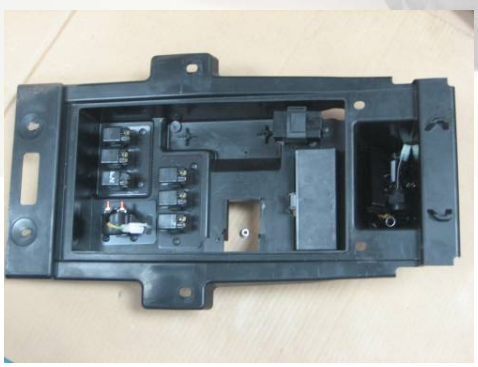


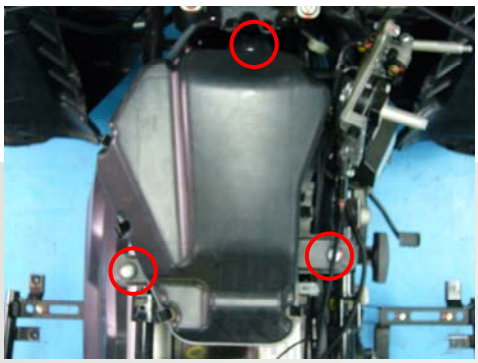
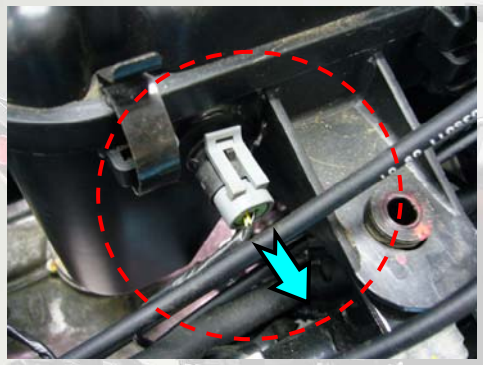
Dismantle the connector

After dismantle all connector

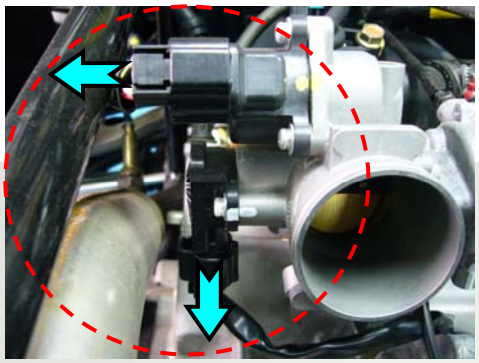
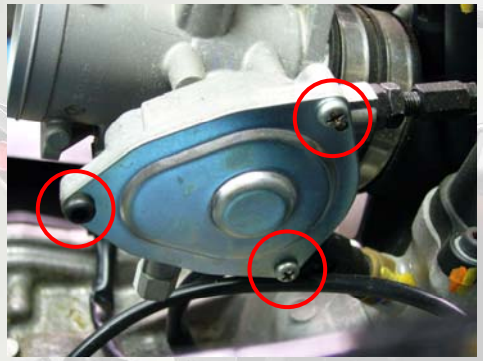
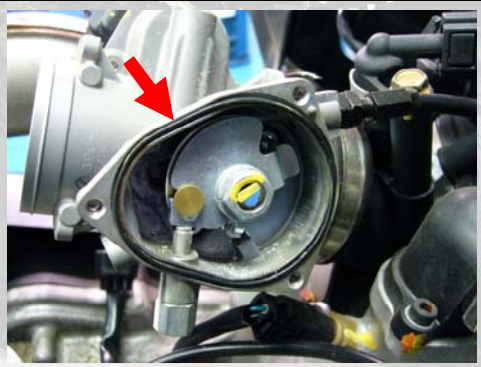
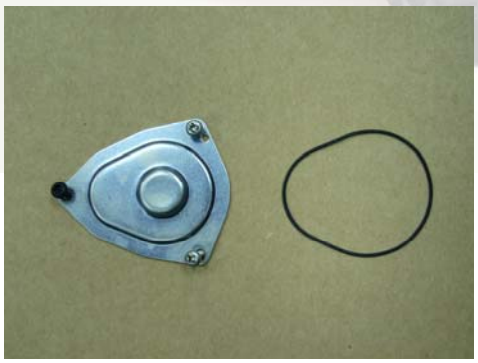
Dismantle the nuts, then remove the wire of start relay

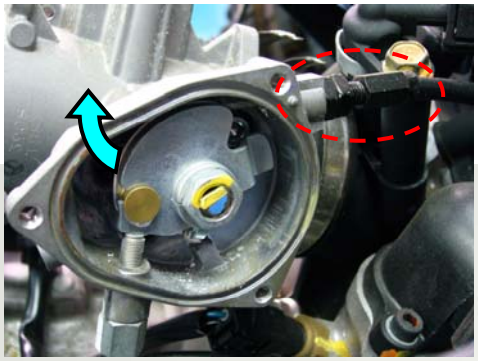
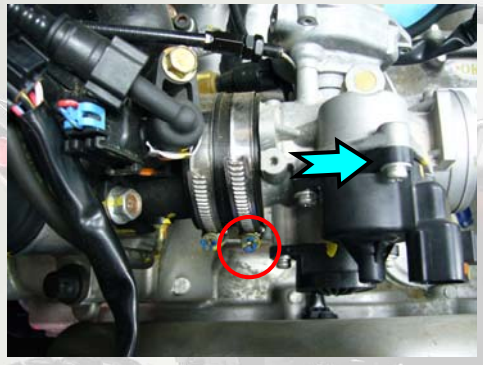
※Torque = 10 Nm

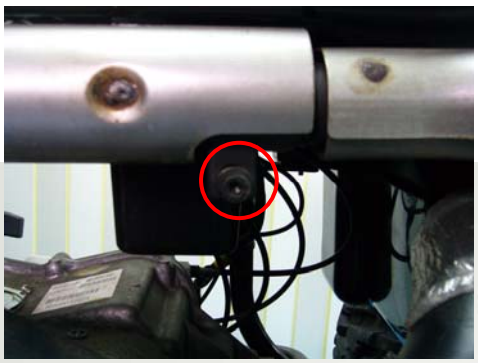
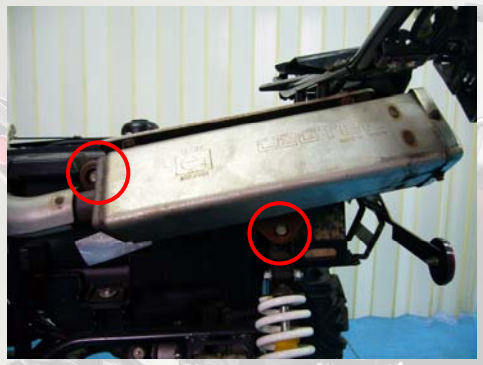
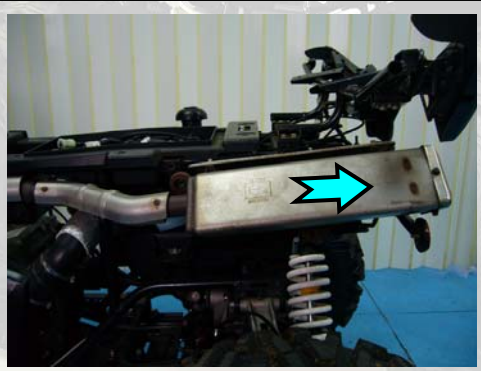
ELECTRICAL HOUSING DISMANTLE	
	Dismantle the screws of fuse box
	Remove the small wire harness
	Lift the rear of electrical housing, to remove other wire harness
	The electrical housing

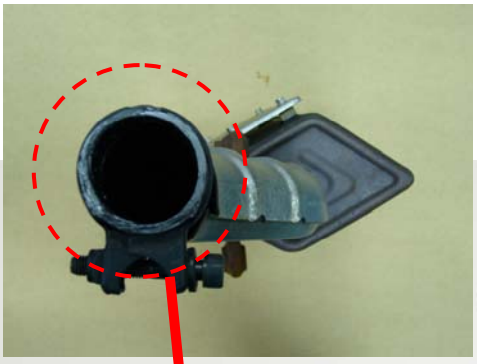
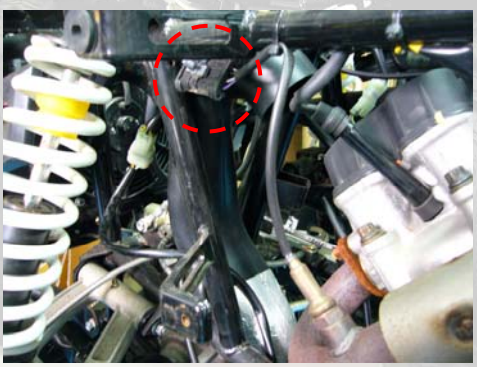
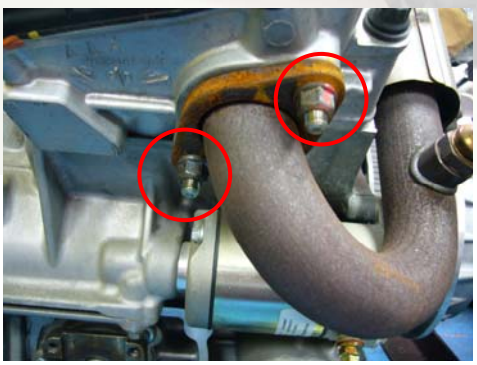
THROTTLE BODY DISMANTLE	
	Dismantle the bolts of air cleaner ※Torque = 10 Nm
	Dismantle the connector of sensor
	Release the screw of clamp
	Release the screw of clip, then remove the hose and pull out the air clenaer

THROTTLE BODY DISMANTLE	
	Pull out the air cleaner
	The air cleaner

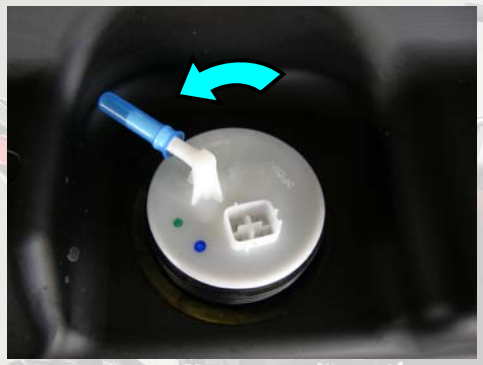
THROTTLE BODY DISMANTLE	
	Dismantle the connector of IACV and TPS
	Dismantle the bolts of throttle cable cover
	⚠ Warning Be careful about the O-ring of the throttle cable cover
	The throttle cable cover

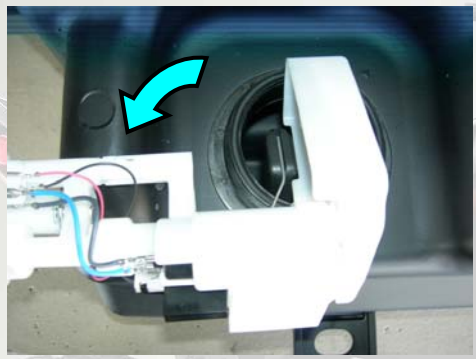
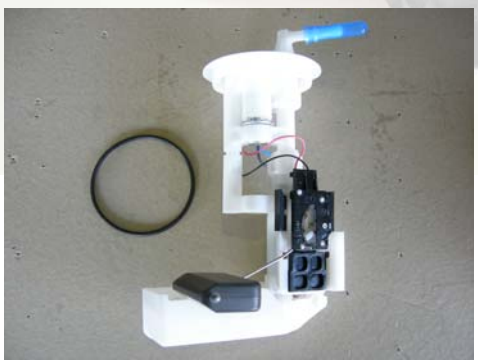
THROTTLE BODY DISMANTLE	
	Release the nuts to loosen the throttle cable, then remove the throttle cable
	Release the screw, then remove the throttle
	⚠ Warning Avoid any dirt, Cover the intake pipe
	The throttle

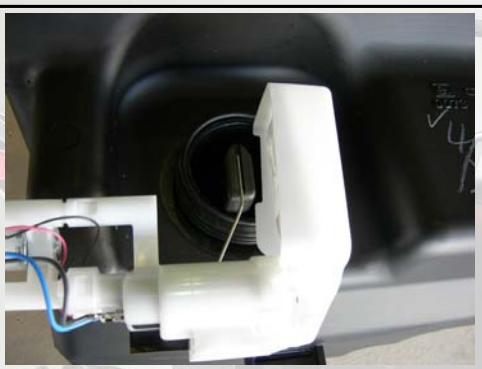
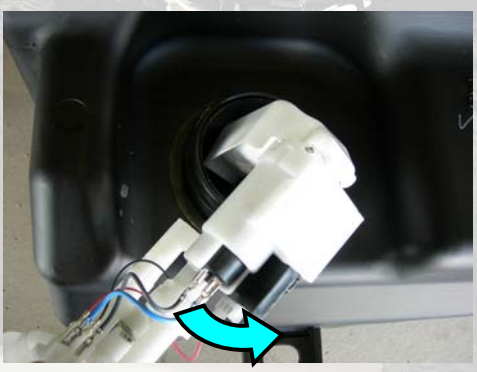
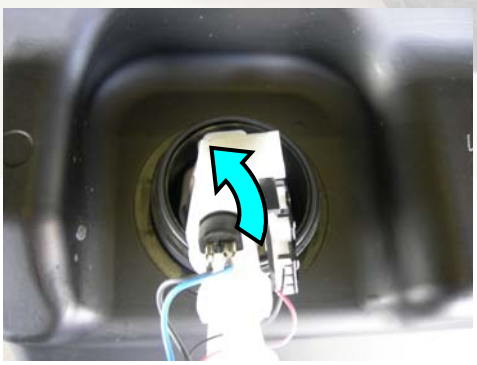
MUFFLER DISMANTLE	
	Release the bolt of clip ※Torque = 15 Nm
	Dismantle the bolts of muffler ※Torque = 25 Nm
	Then remove the muffler
	The muffler

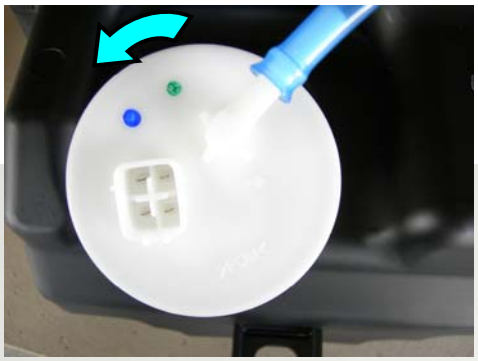
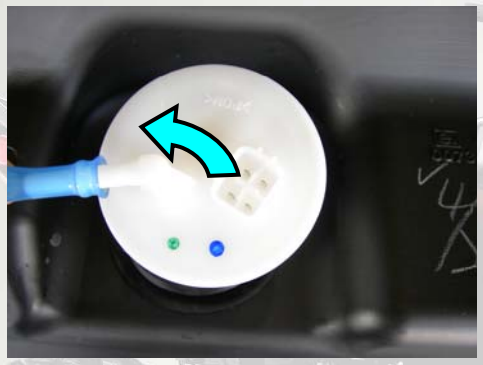
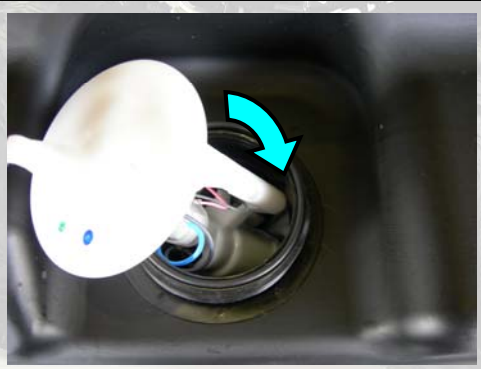
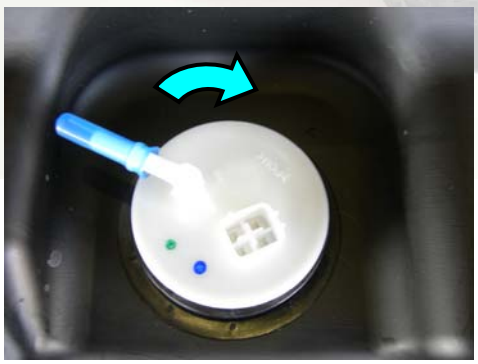
MUFFLER DISMANTLE	
	Check the gasket of muffler
	The gasket
	Dismantle the connector of O2 sensor
	Dismantle the nuts of exhaust pipe ※Torque = 20 Nm

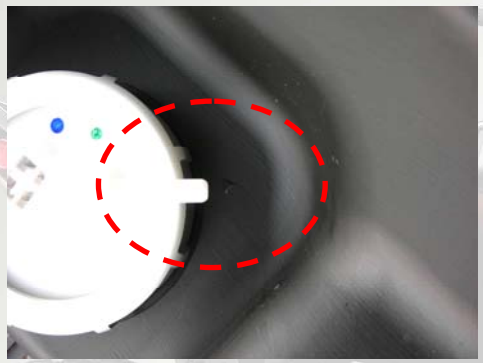
MUFFLER DISMANTLE	
	Then remove the exhaust pipe
	The exhaust pipe

FUEL PUMP DISMANTLE	
	Use *Spanner-Fuel Retainer* to dismantle the retainer 
	Then turn counterclockwise
	Pull out the fuel pump half way
	Then turn counterclockwise

FUEL PUMP DISMANTLE	
	Pull out the fuel pump
	⚠ Warning Turn counterclockwise, then take out the fuel gauge carefully
	⚠ Warning Be careful about the O-ring of the fuel pump
	The fuel pump

FUEL PUMP ASSEMBLY	
	Install the O-ring, then use oil to lubricate
	Put in the fuel gage first
	Then turn counterclockwise
	Put in the fuel pump half way

FUEL PUMP ASSEMBLY	
	Turn counterclockwise
	And pull out the fuel pump half way
	Then put in the fuel pump to end
	Turn clockwise

FUEL PUMP ASSEMBLY	
	Then install the retainer
	⚠ Warning Make sure the mark of fuel tank match the output pipe of fuel pump
	Use the special tool to tighten the retainer  ※Torque = 25 Nm

SUSPENSION / TRANSMISSION

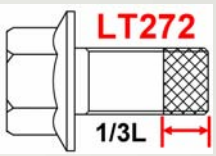
DISMANTLE

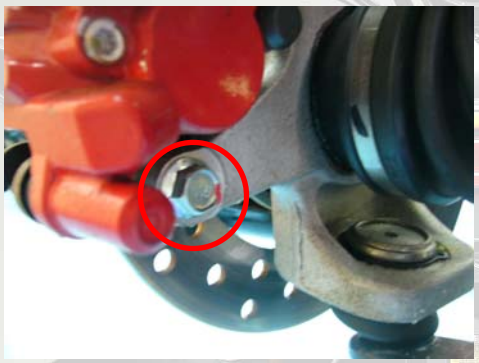
LHF & RHF WHEEL DISMANTLE	
	Dismantle the nuts of wheel, then remove the wheel ※Torque 60Nm
	The wheel
	/ Off Road / Remove the wheel cap / On Road / Push the cap from the back of wheel
	The wheel cap

LHF & RHF CALIPER DISMANTLE

Dismantle the upper bolt of caliper

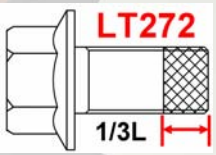
※Torque 25Nm

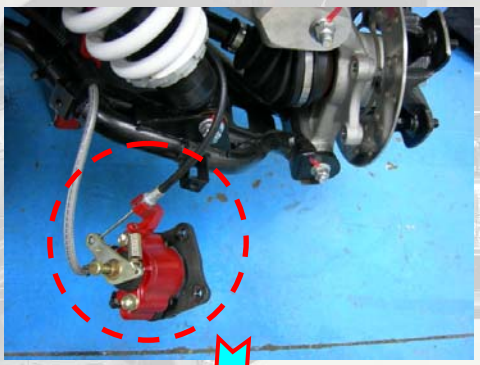




Dismantle the lower bolt of caliper, then remove the caliper

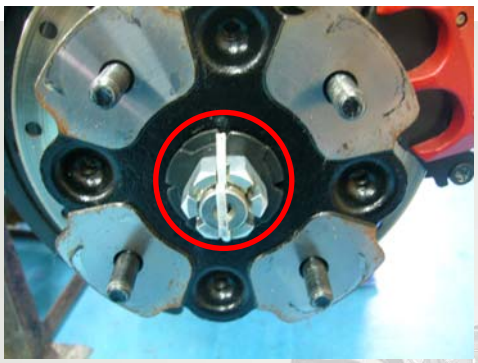
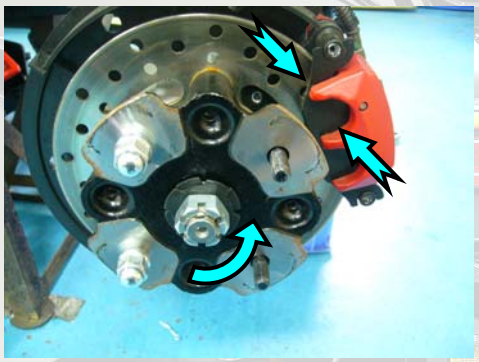
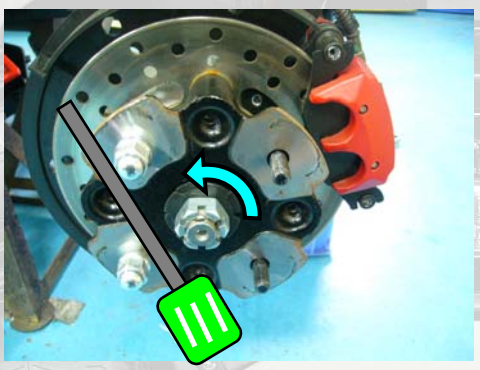
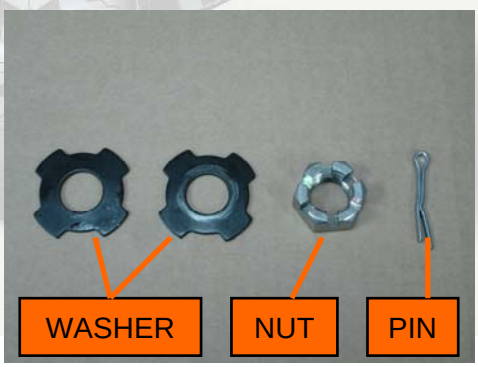
※Torque 25Nm



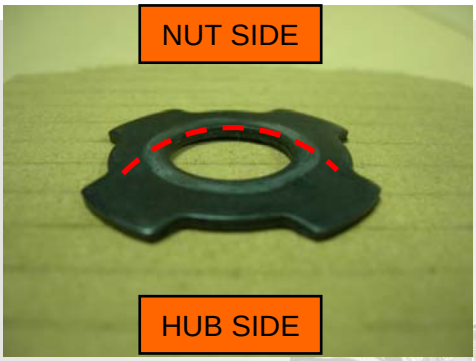


Avoid any knock, suspend the caliper with cloth

Avoid any knock, suspend the caliper with cloth

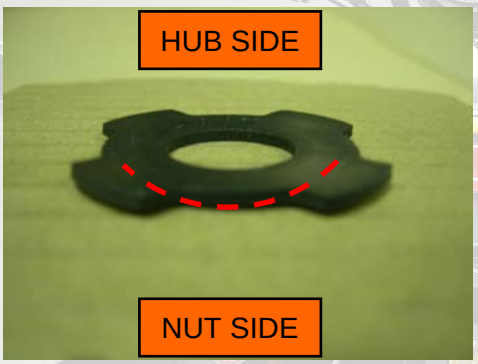
LHF & RHF HUB DISMANTLE	
	Dismantle the pin of nut
	Dismantle the nut of hub by 1.Reinstall the caliper, then use brake to hold the hub ※Torque 100Nm
	Dismantle the nut of hub by 2.Reinstall the nuts of wheel, then use big screw-driver to hold the hub ※Torque 100Nm
	The pin、nut and washer

LHF & RHF HUB DISMANTLE



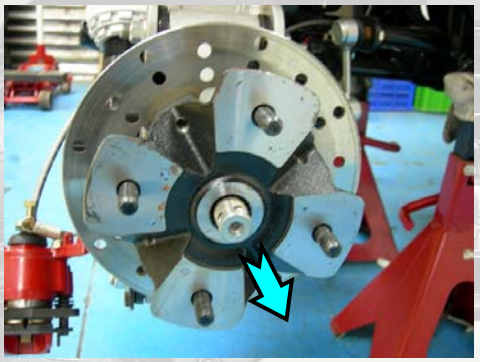
⚠ Warning

The flange of washer is lower, when install the washer must in the right direction



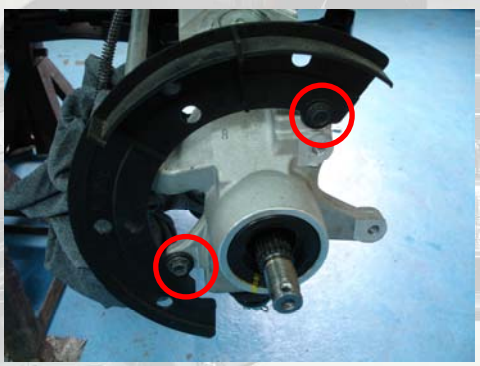
⚠ Warning

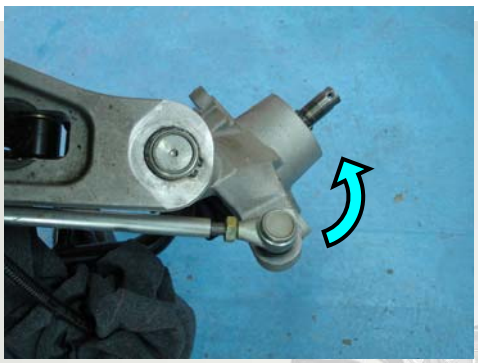
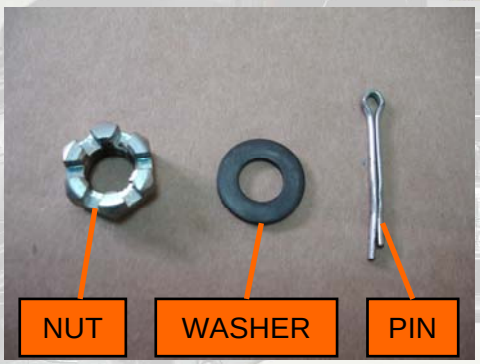
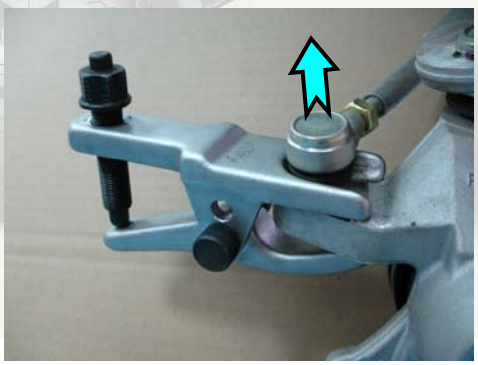
The flange of washer is lower, when install the washer must in the right direction

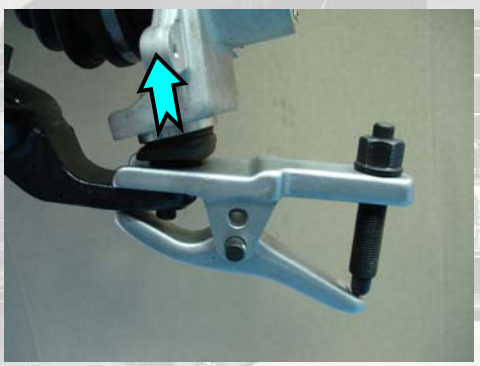


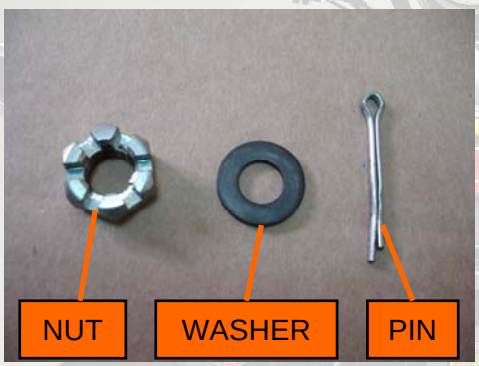
Pull out the hub

The hub

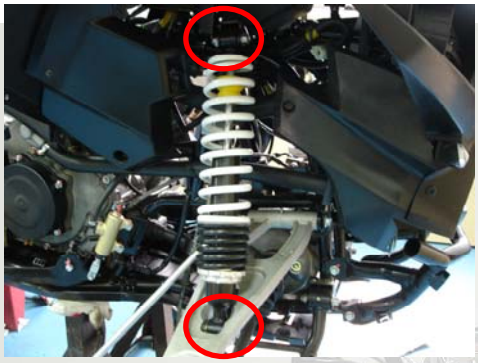
LHF & RHF DISK & COVER DISMANTLE	
	Turn the hub over dismantle the bolts of disk, then remove the disk
	The disk ※Torque 20Nm
	Dismantle the bolts of cover, then remove the cover
	The cover ※Torque 10Nm

LHF & RHF KNUCKLE DISMANTLE	
	Turn the knuckle
	Then dismantle the pin and nut of knuckle ※Torque 25Nm
	The pin、washer and nut
	Use the tool to dismantle the ball joint of tie rod

LHF & RHF KNUCKLE DISMANTLE	
	Dismantle the lower pin and nut of knuckle ※Torque 50Nm
	The pin and nut
	Use the tool to dismantle the ball joint of lower arm, then remove the knuckle

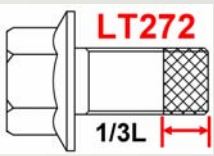
LHF & RHF KNUCKLE DISMANTLE	
	Dismantle the upper pin and nut of knuckle ※Torque 30Nm
	The pin、washer and nut
	Use the tool to dismantle the ball joint of upper arm
	The knuckle

LHF & RHF ABSORBER & UPPER ARM DISMANTLE



Dismantle the nuts and bolts of absorber, then remove the absorber

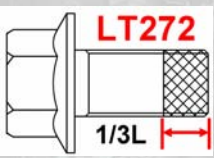
※Torque 70Nm



The absorber

Dismantle the nut and bolt of arm, then remove the arm

※Torque 70Nm

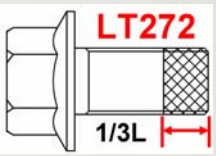


The upper arm

LHF & RHF LOWER ARM DISMANTLE

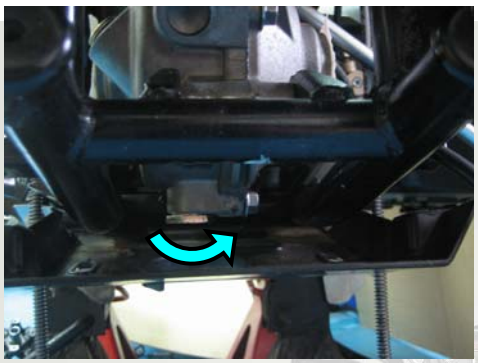
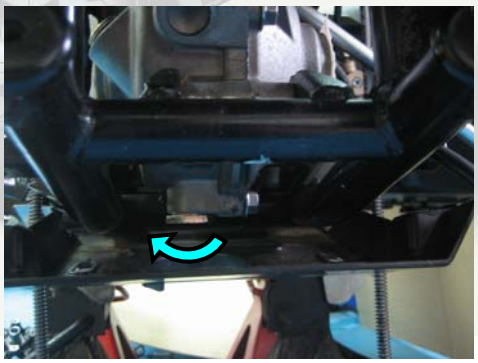
Dismantle the nuts and bolts of arm, then remove the arm

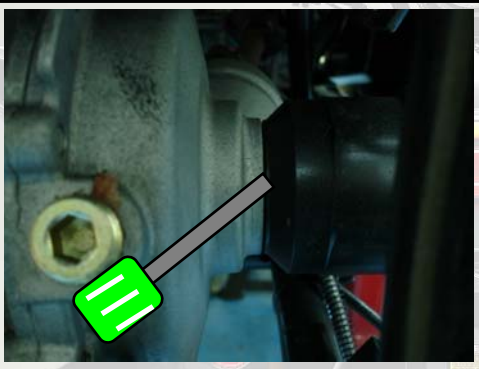
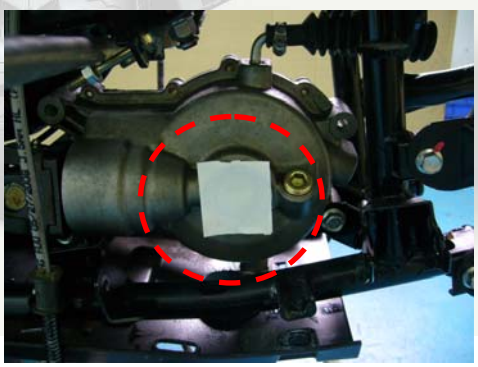
※Torque 70Nm



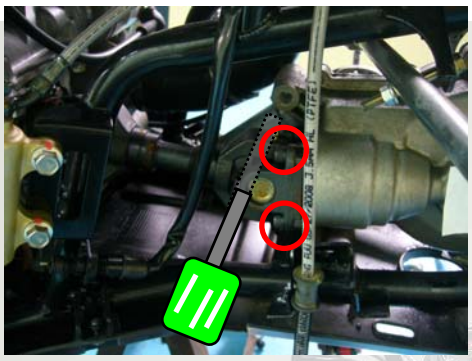
The lower arm

FRONT DIFFERENTIAL DISMANTLE

	Dismantle the bolt of differential to drain the gear oil
	The bolt and washer ※Change new washer
	⚠ Warning By check the gear oil to know the stative of differential
	Then reinstall the bolt

FRONT DIFFERENTIAL DISMANTLE	
	Pull out the CV-Joint horizontally
	Or use the screw-driver to open the CV-Joint
	The CV-Joint
	⚠ Warning Avoid any dirty, cover the differential

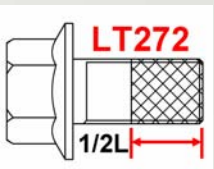
FRONT DIFFERENTIAL DISMANTLE



Dismantle the bolts of shaft

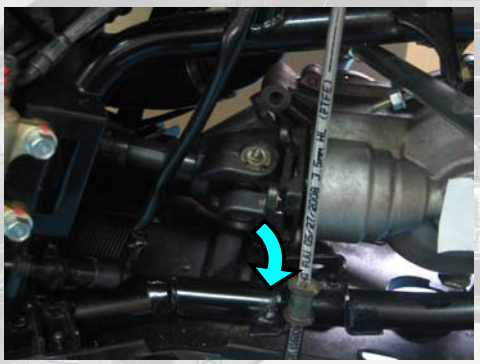
1.By use the screw-driver to lock the shaft

※Torque 25Nm



Dismantle the bolts of shaft

2.By shift the gear position to engage reverse gear and 4 wheel driver



Then pull out the shaft

The propeller shaft

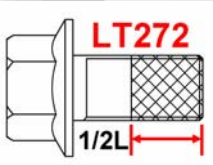
FRONT DIFFERENTIAL DISMANTLE

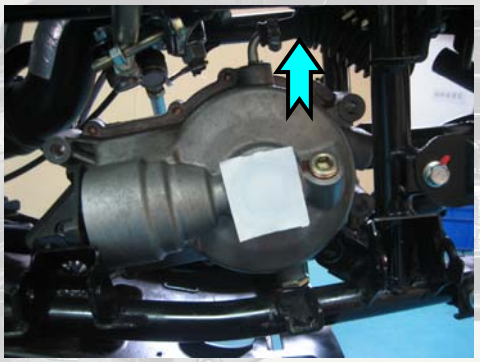
⚠ Warning

Dismantle the connector of differential

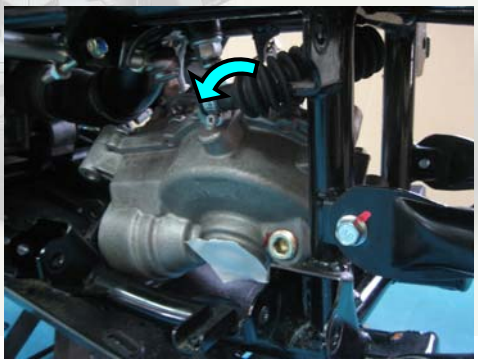
Dismantle the nuts and bolts of differential

※Torque 40Nm

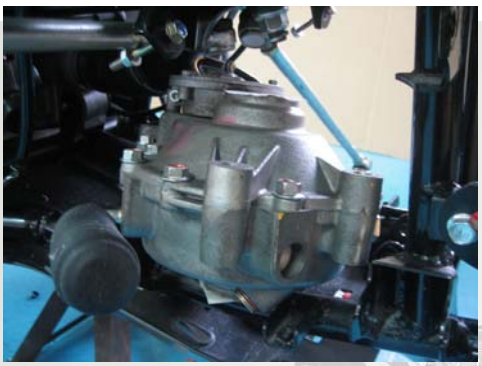




Lift the differential

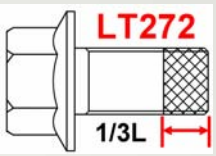
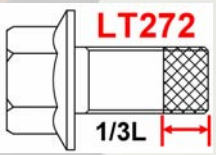
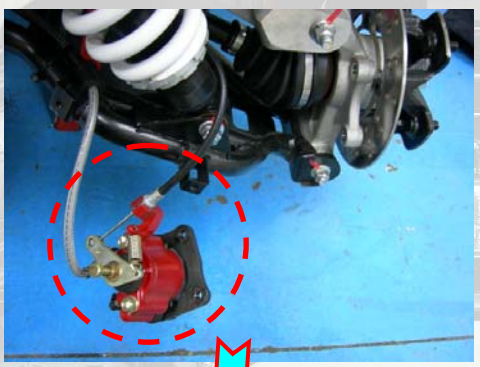


Turn the counterclockwise side

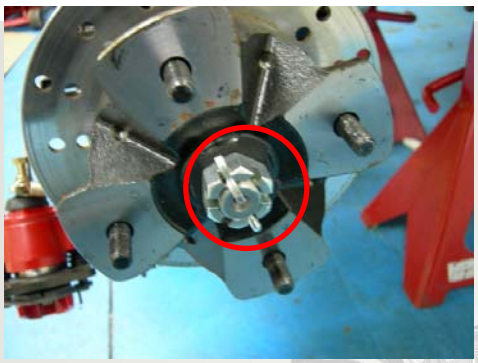
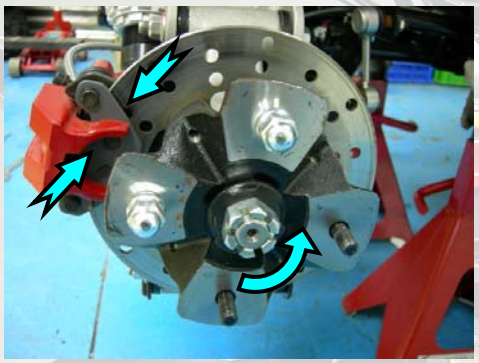
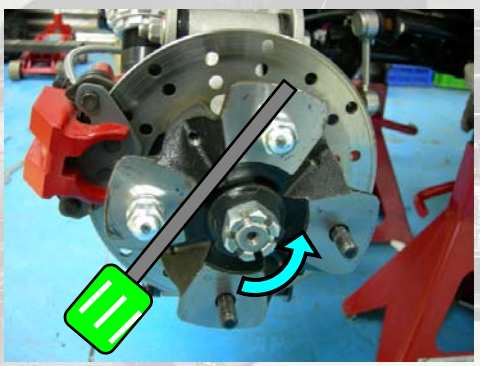
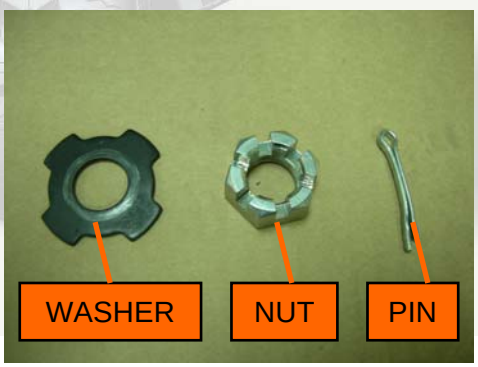
FRONT DIFFERENTIAL DISMANTLE	
	Remove the differential
	The differential

LHR & RHR WHEEL DISMANTLE	
	Dismantle the bolts of wheel, then remove the wheel ※Torque 60Nm
	The wheel
	/ Off Road / Remove the wheel cap / On Road / Push the cap from the back of wheel
	The wheel cap

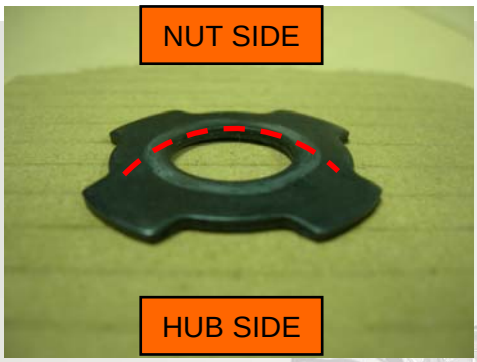
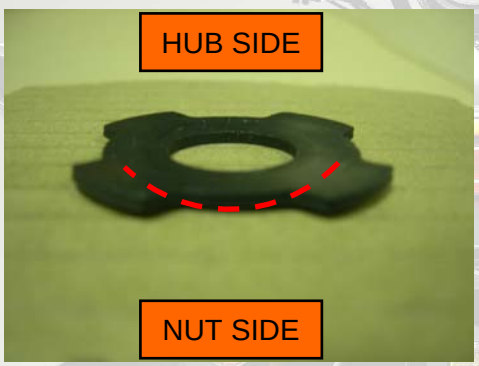
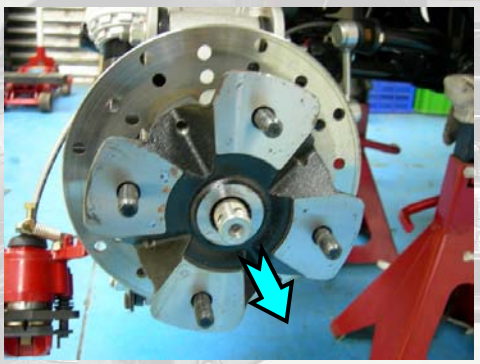
LHR & RHR CALIPER DISMANTLE

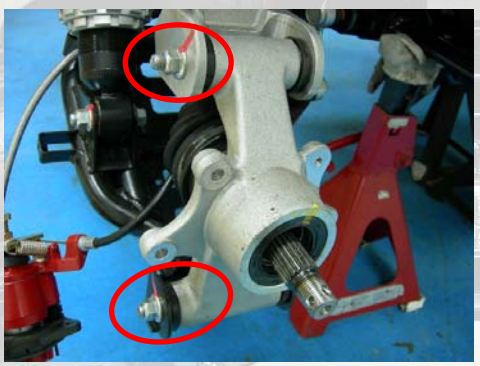
	Dismantle the upper bolt of caliper ※Torque 25Nm 
	Dismantle the lower bolt of caliper, then remove the caliper ※Torque 25Nm 
	Avoid any knock, suspend the caliper with cloth
	Avoid any knock, suspend the caliper with cloth

LHR & RHR HUB DISMANTLE

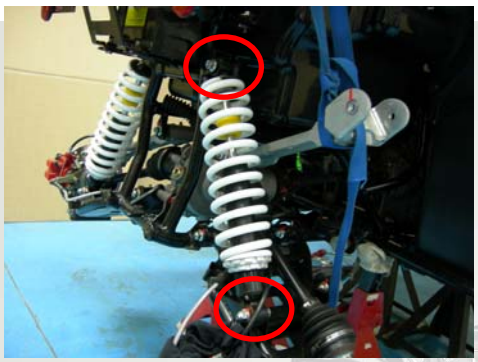
	Dismantle the pin of nut
	Dismantle the nut of hub by 1.Reinstall the caliper, then use brake to hold the hub ※Torque 100Nm
	Dismantle the nut of hub by 2.Reinstall the nuts of wheel, then use big screw-driver to hold the hub ※Torque 100Nm
	The pin、nut and washer

LHR & RHR HUB DISMANTLE

	⚠ Warning The flange of washer is lower, when install the washer must in the right direction
	⚠ Warning The flange of washer is lower, when install the washer must in the right direction
	Pull out the hub
	The hub

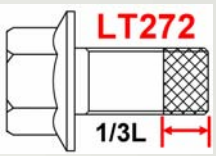
LHR & RHR DISK & KNUCKLE DISMANTLE	
	Turn the hub over and dismantle the bolts of disk, then remove the disk ※Torque 20Nm
	The disk
	Dismantle the nuts and bolts of knuckle, then remove the knuckle ※Torque 70Nm
	The knuckle

LHR & RHR ABSORBER & UPPER ARM DISMANTLE



Dismantle the nuts and bolts of absorber, then remove the absorber

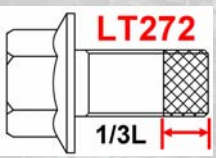
※Torque 70Nm



The absorber

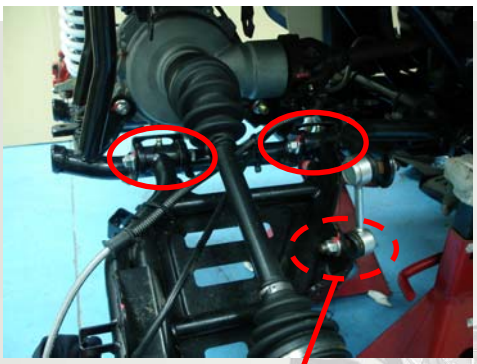
Dismantle the nut and bolt of arm, then remove the arm

※Torque 70Nm



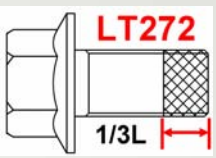
The upper arm

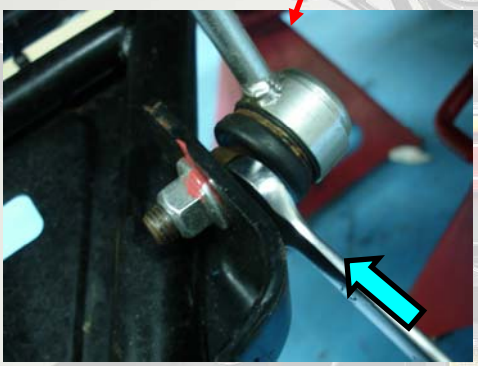
LHR & RHR LOWER ARM DISMANTLE



Dismantle the nuts and bolts of arm, then remove the arm

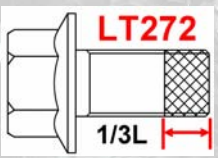
※Torque 70Nm

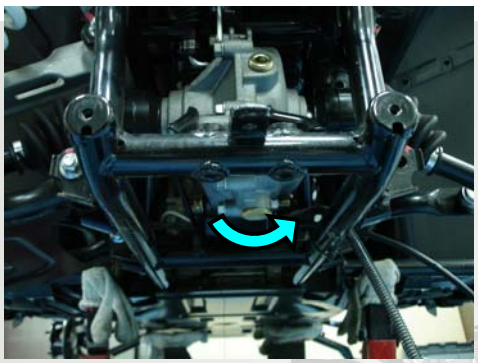
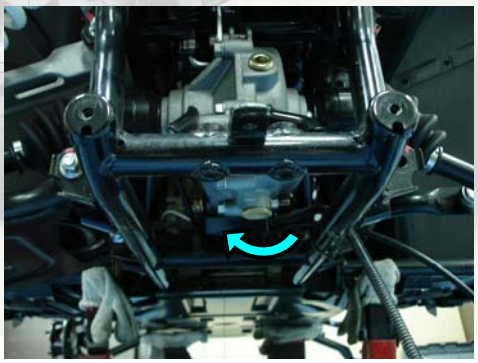




Use the open wrench to lock the ball joint, then dismantle the nut

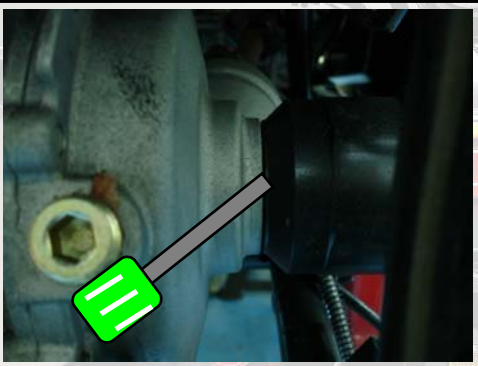
The lower arm

REAR STABILIZER BAR DISMANTLE	
	Dismantle the bolts of bar from two sides ※Torque 30Nm
	The stabilizer bar
	Dismantle the nut of ball joint ※Torque 70Nm 
	The ball joint

REAR GEAR BOX DISMANTLE	
	Dismantle the bolt of gear box to drain the gear oil
	The bolt and washer ※Change new washer
	⚠ Warning By check the gear oil to know the stative of gear box
	Then reinstall the bolt

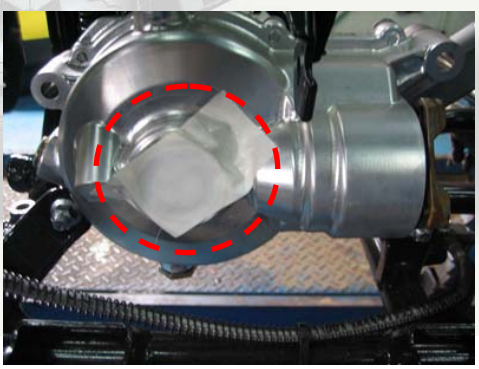
REAR GEAR BOX DISMANTLE

Pull out the CV-Joint horizontally



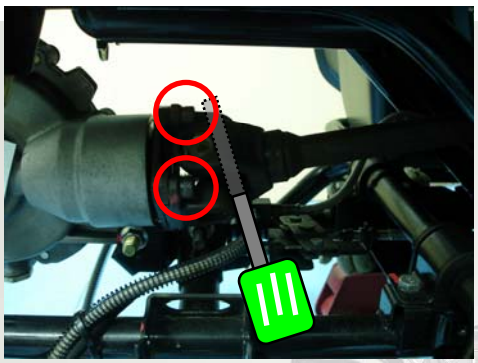
Or use the screw-driver to open the CV-Joint

The CV-Joint



⚠ Warning
Avoid any dirty,
cover the differential

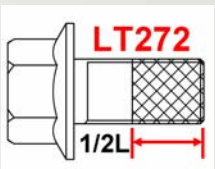
REAR GEAR BOX DISMANTLE



Dismantle the bolts of shaft

1.By use the screw-driver to lock the shaft

※Torque 25Nm



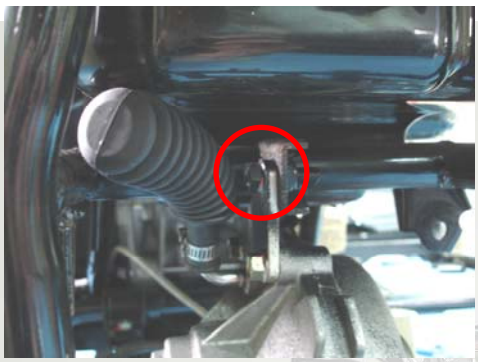
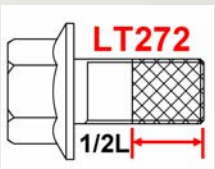
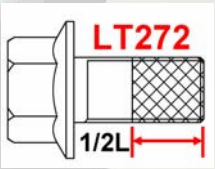
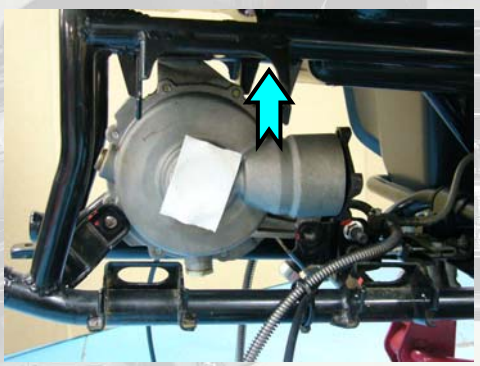
Dismantle the bolts of shaft

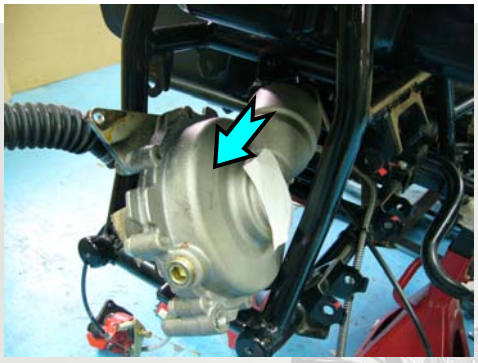
2.By shift the gear position to engage reverse gear

Then pull out the shaft

The propeller shaft

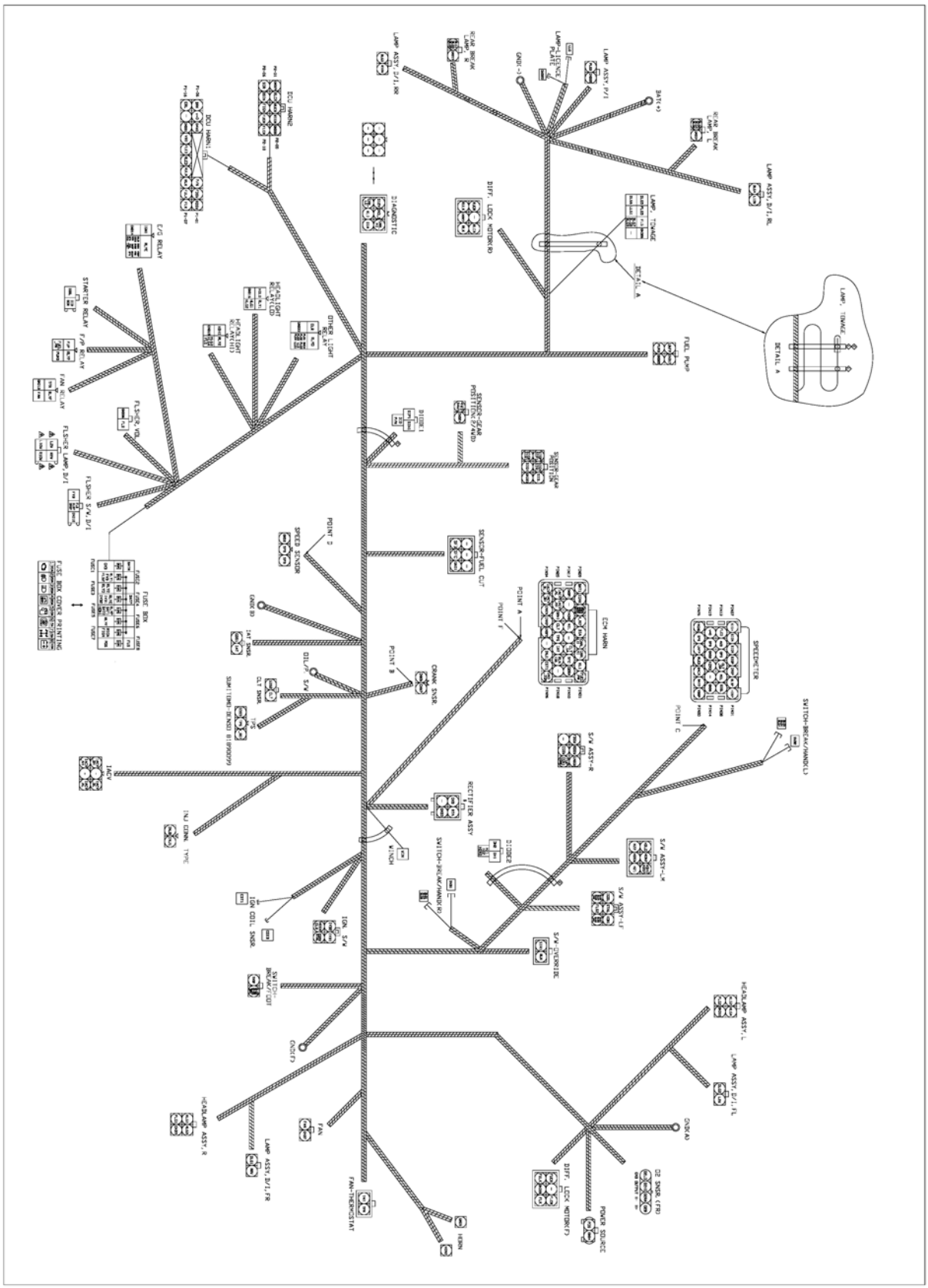
REAR GEAR BOX DISMANTLE

	Dismantle the upper bolt of gear box ※Torque 25Nm 
	Dismantle the lower nuts and bolts of gear box ※Torque 40Nm 
	Lift the gear box
	Turn the contraclockwise side

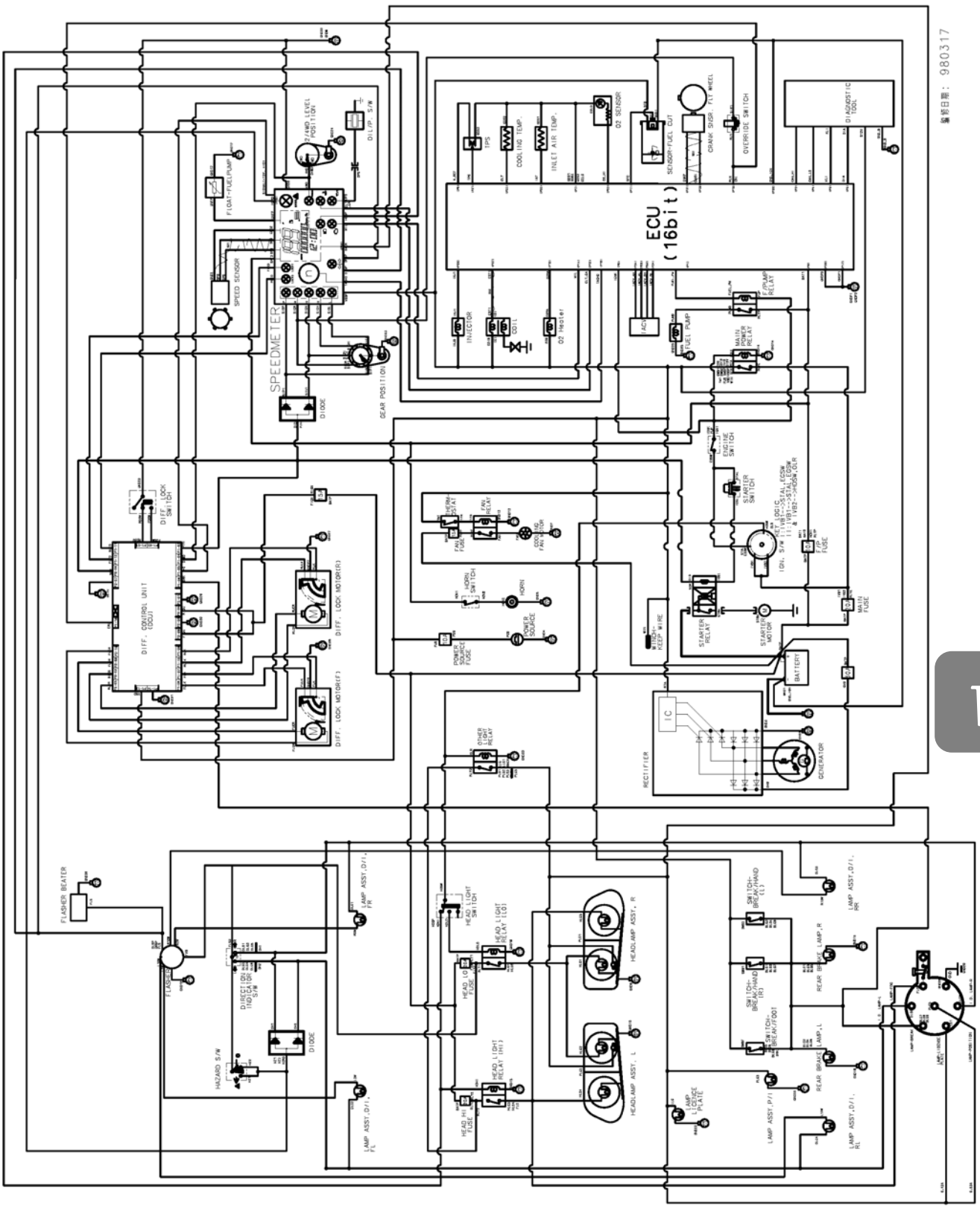
REAR GEAR BOX DISMANTLE	
	Then remove the gear box
	The gear box

ELECTRICAL

ELECTRICAL-Connector



ELECTRICAL-Wire circuit



V

ELECTRICAL-ECU pin

ECM SYSTEM

NO.	SZ	CL	SYU		CIRCUIT				APPLI.
GNDP1	1.25	B	CAVS		GND(F)		ECM HARN	PIN17	VB(-)
GNDP2		B	CAVS		GND(F)		ECM HARN	PIN30	
IGN1		Y-L	CAVS		S/W ASSY-R		E/G RELAY		RELAY BOX
GND14		B	CAVS		E/G RELAY		GND(-)		
SFB		R	CAVS		SENSOR-FUEL CUT		E/G RELAY		SENSOR-FUEL CUT
SFC	0.5	R-B	CAVS		SENSOR-FUEL CUT		ECM HARN	PIN11	
GND1		B	CAVS		SENSOR-FUEL CUT		GND(-)		
INJB		R	CAVS		E/G RELAY		INJ CONN. TYPE		INJECTOR DRIVER
INJ1	0.5	L-Y	CAVS		INJ CONN. TYPE		ECM HARN	PIN28	
COIB		R	CAVS		E/G RELAY		IGN COIL SNSR.		IGNITION COIL SENSOR
EST1	0.5	W	PEXCS	S03	IGN COIL SNSR.		ECM HARN	PIN27	
GND_IGN	1.25	GR	CAVS		GND(-)		ECM HARN	PIN26	
O2HI	0.5	P	CAVS		O2 SNSR.(FR)		ECM HARN	PIN23	O2 SENSOR (FR)
O2LO	0.5	B-W	CAVS		O2 SNSR.(FR)		ECM HARN	PIN07	
O2B		R	CAVS		E/G RELAY		O2 SNSR.(FR)		
O2RA		Y-R	CAVS		O2 SNSR.(FR)		ECM HARN	PIN10	
CNKP	0.5	W	PEXCS	S01	CRANK SNSR.		ECM HARN	PIN31	CRANK SENSOR
CNKN	0.5	B	PEXCS	S01	CRANK SNSR.		ECM HARN	PIN32	
IAT	0.5	Y-L	CAVS		IAT SNSR.		ECM HARN	PIN20	INLET AIR TEMP. SENSOR
GDS1	0.5	B-W	CAVS		IAT SNSR.		ECM HARN	PIN07	
CLT	0.5	L-G	CAVS		CLT SNSR.		ECM HARN	PIN22	COOLANT TEMP. SENSOR
GDS2	0.5	B-W	CAVS		CLT SNSR.		ECM HARN	PIN07	
V_REF	0.5	R-L	AEX		TPS		ECM HARN	PIN06	TPS
TPS	0.5	Y	AEX		TPS		ECM HARN	PIN21	
GDS3	0.5	B-W	AEX		TPS		ECM HARN	PIN07	
IACV_AH	0.5	R	AEX		IACV		ECM HARN	PIN24	IACV
IACV_BL	0.5	B-Y	AEX		IACV		ECM HARN	PIN34	
IACV_BH	0.5	W-R	AEX		IACV		ECM HARN	PIN33	
IACV_AL	0.5	R-L	AEX		IACV		ECM HARN	PIN25	
RLYP	1.25	R-W	AEX		F/P RELAY		FUSE5		FUEL PUMP & F/P RELAY
FUP		G-R	CAVS		F/P RELAY		S/W ASSY-R		
FUEL_PM		O	CAVS		F/P RELAY		ECM HARN	PIN01	
PUMB	1.25	R	CAVS		F/P RELAY		FUEL PUMP		
GND25	1.25	B	CAVS		FUEL PUMP		GND(-)		
UNFP		LG-R	CAVS		SPEEDMETER	PIN24	FUEL PUMP		FUEL PUMP & FLOAT
GND17		B	CAVS		FUEL PUMP		GND(-)		
CAN_HI	0.5	W-L	CAVS		DIAGNOSTIC		ECM HARN	PIN03	DIAGNOSTIC
CAN_LO	0.5	B-R	CAVS		DIAGNOSTIC		ECM HARN	PIN04	
S12V	1.25	G-R	AEX		DIAGNOSTIC		E/G RELAY		
GND_B	1.25	B	CAVS		DIAGNOSTIC		GND(-)		
DIA	0.5	L	CAVS		DIAGNOSTIC		ECM HARN	PIN05	
KLI	0.5	Y	CAVS		DIAGNOSTIC		ECM HARN	PIN02	
RLYE	2.0	Y	AEX		E/G RELAY		FUSE4		
BAT1	1.25	R-B	CAVS		FUSE5		ECM HARN	PIN09	VBB
MIL	0.5	Y-W	CAVS		SPEEDMETER	PIN09	ECM HARN	PIN14	MALFUNCTION INDICATOR LAMP
IGNK	0.5	G	AEX		S/W ASSY-R		ECM HARN	PIN08	IGN_KEY
SO1	0.5	B	CAVS		POINT A		GND(F)		
SO1	0.5	B	CAVS		POINT B		GND(F)		
SO1	0.5	B	CAVS		CRANK SNSR.		ECM HARN		
CLT_GA	0.5	G	CAVS		SPEEDMETER	PIN10	ECM HARN	PIN12	
TACHO	0.5	W-L	CAVS		SPEEDMETER	PIN26	ECM HARN	PIN15	
RLN	0.5	B	CAVS		S/W-OVERRIDE		ECM HARN	PIN19	OVERRIDE SWITCH
SIR1	0.5	L	CAVS		S/W-OVERRIDE		SENSOR-GEAR POSITION		
OLR		R-W	CAVS		OTHER LIGHT RELAY		IGN. S/W		OTHER LIGHT RELAY
GND33		B	CAVS		OTHER LIGHT RELAY		GND(-)		
RLYO		Y-L	AEX		OTHER LIGHT RELAY		FUSE3		
SO3	0.5	B	CAVS		POINT E		GND(F)		
SO3	0.5	B	CAVS		POINT F		GND(B)		
SO3	0.5	B	CAVS		IGN COIL SNSR.		ECM HARN		

ELECTRICAL-Lamp pin

LAMP SYSTEM

NO.	SZ	CL	SYU	CIRCUIT			APPLI.
HDSW		R-W	CAVS	S/W ASSY-LM		IGN. S/W	HEAD LIGHT SWITCH
HDLO		W	CAVS	S/W ASSY-LM		HEADLIGHT RELAY(LO)	
GND16		B	CAVS	HEADLIGHT RELAY(LO)		GND(-)	
RLY1	1.25	G-R	AEX	FUSE2		HEADLIGHT RELAY(LO)	HEAD LIGHT, LO
HLG1	1.25	G	CAVS	HEADLIGHT RELAY(LO)		HEADLAMP ASSY, R	& POSITION LAMP
HLG2	1.25	G	CAVS	HEADLIGHT RELAY(LO)		HEADLAMP ASSY, L	
PLG1		Y	CAVS	OTHER LIGHT RELAY		HEADLAMP ASSY, R	
PLG2		Y	CAVS	OTHER LIGHT RELAY		HEADLAMP ASSY, L	
PLG3		Y	CAVS	OTHER LIGHT RELAY		LAMP ASSY, P/I	TAIL LAMP
LLG		Y	AEX	OTHER LIGHT RELAY		LAMP LICENCE PLATE	& LAMP, LICENCE PLATE
GND9		B	CAVS	HEADLAMP ASSY, R		GND(F)	
GND10		B	CAVS	HEADLAMP ASSY, L		GND(F)	GND, HEAD LAMP
GND19		B	AEX	REAR BREAK LAMP, R		GND(-)	GND, LAMP ASSY, REAR COMB
R10W		L-B	AEX	LAMP ASSY, D/I, RR		FLSHER LAMP, D/I	GND, LAMP, LICENCE PLATE
GND20	0.5	B-W	AEX	LAMP LICENCE PLATE		GND(-)	
L10W		B	AEX	LAMP ASSY, DI, RL		FLSHER LAMP, D/I	
GND34		B	AEX	REAR BREAK LAMP, L		GND(-)	
GND35		B	AEX	LAMP ASSY, P/I		GND(-)	
HDHI		L-G	CAVS	S/W ASSY-LM		HEADLIGHT RELAY(HI)	
GND15		B	CAVS	HEADLIGHT RELAY(HI)		GND(-)	
RLY2	2.0	G	AEX	FUSE3		HEADLIGHT RELAY(HI)	HEAD LIGHT, HI
HLG3	1.25	O	CAVS	HEADLIGHT RELAY(HI)		HEADLAMP ASSY, R	
HLG4	1.25	O	CAVS	HEADLIGHT RELAY(HI)		HEADLAMP ASSY, L	
FVB		W	AEX	FUSE2		FLSHER SW, D/I	
FLS		W-R	AEX	FLSHER SW, D/I		FLSHER , VOL	FLASHER, DIRECTION INDICATOR
GND12		B	AEX	FLSHER SW, D/I		GND(-)	
FLS2		W-R	AEX	FUSE2		S/W ASSY-LF	
GND36		B	AEX	FLSHER, VOL		GND(-)	
DLG1		L	CAVS	S/W ASSY-LF		LAMP ASSY, D/I, FR	
R2W		Y-L	AEX	LAMP ASSY, D/I, FR		FLSHER LAMP, D/I	
DLG3		L-W	CAVS	S/W ASSY-LF		LAMP ASSY, D/I, RR	LAMP ASSY, DIRECTION INDICATOR
DLG2		O	CAVS	S/W ASSY-LF		LAMP ASSY, D/I, FL	
L2W		Y	AEX	LAMP ASSY, D/I, FL		FLSHER LAMP, D/I	
DLG4		L-B	AEX	S/W ASSY-LF		LAMP ASSY, D/I, RL	
SWB1		R-W	CAVS	SWITCH-BREAK/HAND(R)		E/G RELAY	
BLG1		L	CAVS	SWITCH-BREAK/HAND(R)		REAR BREAK LAMP ,R	LAMP, BREAK/HAND(R)
BLG2		L	CAVS	SWITCH-BREAK/HAND(R)		REAR BREAK LAMP ,L	
SWB2		R-W	CAVS	SWITCH-BREAK/HAND(L)		E/G RELAY	
BLG3		L	CAVS	SWITCH-BREAK/HAND(L)		REAR BREAK LAMP ,R	LAMP, BREAK/HAND(L)
BLG4		L	CAVS	SWITCH-BREAK/HAND(L)		REAR BREAK LAMP ,L	
SWBF		R-W	CAVS	SWITCH-BREAK/FOOT		E/G RELAY	
BLG5		L	CAVS	SWITCH-BREAK/FOOT		REAR BREAK LAMP ,R	LAMP, BREAK/FOOT
BLG6		L	CAVS	SWITCH-BREAK/FOOT		REAR BREAK LAMP ,L	
DLG5		L-W	CAVS	S/W ASSY-LF		LAMP, TOWAGE	
DLG6		L-B	CAVS	S/W ASSY-LF		LAMP, TOWAGE	
PLG5		Y	CAVS	OTHER LIGHT RELAY		LAMP, TOWAGE	
LLG1		Y	CAVS	OTHER LIGHT RELAY		LAMP, TOWAGE	
FLG		G-W	CAVS	HEADLIGHT RELAY(HI)		LAMP, TOWAGE	ALL KIND OF LAMP, TOWAGE
BLG7		L	CAVS	SWITCH-BREAK/HAND(L)		LAMP, TOWAGE	
BLG8		L	CAVS	SWITCH-BREAK/HAND(R)		LAMP, TOWAGE	
BLG9		L	CAVS	SWITCH-BREAK/FOOT		LAMP, TOWAGE	
GND26	1.25	B	CAVS	GND(-)		LAMP, TOWAGE	
DH1		L-W	CAVS	DIODE2		S/W ASSY-LF	
DH2		L-B	CAVS	DIODE2		S/W ASSY-LF	
HZ1		L	CAVS	S/W ASSY-LM		DIODE2	
HZ2		L	CAVS	S/W ASSY-LM		DIODE2	

ELECTRICAL-DIFF pin

DIFF. CONTROL & STARTER IN GEAR UNIT

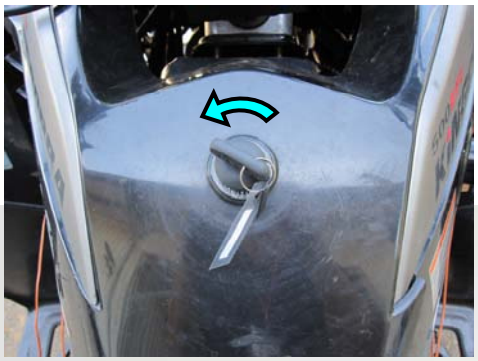
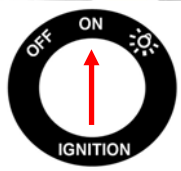
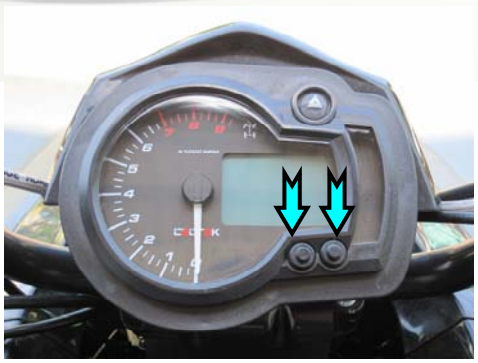
NO.	SZ	CL	SYU		CIRCUIT				APPLI.
RDSW	0.5	W	CAVS		S/W ASSY-R		DCU HARN1	P1-01	
FDSW	0.5	G	CAVS		S/W ASSY-R		DCU HARN1	P1-02	
P/N	0.5	B-R	CAVS		DIODE1		DCU HARN1	P1-03	
D4WD	0.5	O	CAVS		SENSOR-GEAR POSITION(2/4WD)		DCU HARN1	P1-04	
v=0	0.5	GR	CAVS		SPEEDMETER	PIN19	DCU HARN1	P1-05	
BRK	0.5	L	CAVS		SWITCH-BREAK/FOOT		DCU HARN1	P1-06	
FLK	0.5	Y	CAVS		DIFF. LOCK MOTOR(F)		DCU HARN1	P1-07	
FULK	0.5	Y-B	CAVS		DIFF. LOCK MOTOR(F)		DCU HARN1	P1-08	DCU HARN1
RLK	0.5	LG-R	CAVS		DIFF. LOCK MOTOR(R)		DCU HARN1	P1-09	
RULK	0.5	LG-W	CAVS		DIFF. LOCK MOTOR(R)		DCU HARN1	P1-10	
RLED	0.5	P	CAVS		SPEEDMETER	PIN23	DCU HARN1	P1-11	
FLED	0.5	V	CAVS		SPEEDMETER	PIN13	DCU HARN1	P1-12	
VBD	0.5	R-W	CAVS		E/G RELAY		DCU HARN1	P1-13	
GND31	0.5	B	CAVS		GND(B)		DCU HARN1	P1-14	
GND29		B-W	AVX		GND(B)		DCU HARN2	P2-01	
RLCR		L-W	AVX		DIFF. LOCK MOTOR(R)		DCU HARN2	P2-02	
RUCR		L	AVX		DIFF. LOCK MOTOR(R)		DCU HARN2	P2-03	
RIGN		R-W	AVX		FUSE7		DCU HARN2	P2-04	
GND30		B-W	AVX		GND(B)		DCU HARN2	P2-05	DCU HARN2
SCR		B-R	AVX		STARTER RELAY		DCU HARN2	P2-06	
DSIN		B	AVX		GND(B)		DCU HARN2	P2-07	
FIGN		R	AVX		FUSE7		DCU HARN2	P2-08	
FUCR		G-W	AVX		DIFF. LOCK MOTOR(F)		DCU HARN2	P2-09	
FLCR		G	AVX		DIFF. LOCK MOTOR(F)		DCU HARN2	P2-10	
BATP	3.0	R	AEX		BAT(+)		FUSE4		
GND27		B	CAVS		DIFF. LOCK MOTOR(R)		GND(-)		
GND28		B	CAVS		DIFF. LOCK MOTOR(F)		GND(F)		
GND32		B	CAVS		S/W ASSY-R		GND (F)		
ERL	0.5	B	CAVS		ECM HARN	PIN19	DCU HARN1	P2-16	
BATM	3.0	R	AEX		BAT(+)		FUSE1		

ELECTRICAL-Other pin

STARTER & CHARGE SYSTEM and OTHER

NO.	SZ	CL	SYU		CIRCUIT				APPLI.
IVB1		R	AEX		FUSE4		IGN. S/W		STATER RELAY
IVB2		R	AEX		FUSE4		IGN. S/W		
BAT2		R-B	CAVS		FUSE5		SPEEDMETER	PIN21	
IGSL		B-W	CAVS		STARTER RELAY		S/W ASSY-LF		
DID		B-R	CAVS		STARTER RELAY		DIODE1		
GVB	3.0	R	AEX		RECTIFIER ASSY		FUSE1		RECTIFIER ASSY
GND3	2.0	B	AEX		RECTIFIER ASSY		GND(B)		
RTA	1.25	G	CAVS		RECTIFIER ASSY		E/G RELAY		
FUS	1.25	W	AEX		FUSE8		E/G RELAY		
EGSW		Y-L	AEX		IGN. S/W		S/W ASSY-R		IGNITION FUSE
SPB	0.5	B	PEXCS	S02	SPEED SENSOR		SPEEDMETER	PIN18	SPEED SENSOR
SPS	0.5	W	PEXCS	S02	SPEED SENSOR		SPEEDMETER	PIN25	
GND2		B-W	CAVS		SPEED SENSOR		SPEEDMETER	PIN17	
FAN	1.25	GR	CAVS		FAN		FAN RELAY		COOLING FAN MOTOR
GND7	1.25	B	CAVS		FAN		GND(A)		
TMT		R-W	CAVS		FAN-THERMOSTAT		E/G RELAY		
TFR		Y-L	CAVS		FAN-THERMOSTAT		FAN RELAY		
RLYF	1.25	W	AEX		FUSE6		FAN RELAY		
GND13		B	CAVS		FAN RELAY		GND(-)		
HON1		R-B	CAVS		S/W ASSY-LF		FUSE5		HORN
HON2		G	CAVS		S/W ASSY-LM		HORN		
GND5		B	CAVS		HORN		GND(F)		
POS	1.25	R-W	AEX		FUSE8		POWER SOURCE		POWER SOURCE
GND4	1.25	B	AEX		POWER SOURCE		GND(F)		
SIGP		Y	CAVS		SENSOR-GEAR POSITION		SPEEDMETER	PIN04	SENSOR-GEAR POSITION
SIGR		Y-R	CAVS		SENSOR-GEAR POSITION		SPEEDMETER	PIN05	
SIGN		Y-G	CAVS		SENSOR-GEAR POSITION		SPEEDMETER	PIN06	
SIGH		Y-B	CAVS		SENSOR-GEAR POSITION		SPEEDMETER	PIN07	
SIGL		Y-L	CAVS		SENSOR-GEAR POSITION		SPEEDMETER	PIN08	
GND23	1.25	B	CAVS		SENSOR-GEAR POSITION		GND(B)		SPEEDMETER
VBSP		R-W	AEX		E/G RELAY		SPEEDMETER	PIN20	
GND6		B	CAVS		GND(F)		SPEEDMETER	PIN14	
DRSP		L-W	CAVS		FLSHER SW, D/I		SPEEDMETER	PIN03	
DLSP		L-B	CAVS		FLSHER SW, D/I		SPEEDMETER	PIN02	
HDSP		L-G	CAVS		S/W ASSY-LM		SPEEDMETER	PIN01	
OPS		GR	CAVS		OIL/P. S/W		SPEEDMETER	PIN11	
4WD		O	CAVS		SENSOR-GEAR POSITION(2/4WD)		SPEEDMETER	PIN12	
GND24		B	CAVS		SENSOR-GEAR POSITION(2/4WD)		GND(B)		
S02	0.5	B	CAVS		POINT D		SPEED SENSOR(GND2)		
S02	0.5	B	CAVS		POINT C		GND(F)		
S02	0.5	B	CAVS		SPEED SENSOR		SPEEDMETER		
SIP1		Y	CAVS		DIODE1		SENSOR-GEAR POSITION		
SIN1		Y-G	CAVS		DIODE1		SENSOR-GEAR POSITION		
WIN		R-W	CAVS		E/G RELAY		WINCH		
STAL		Y-L	CAVS		IGN. S/W		S/W ASSY-LF		
BACK		LG-W	CAVS		OTHER LIGHT RELAY		SPEEDMETER	PIN22	
HZRD		L	CAVS		DIODE2		SPEEDMETER	PIN16	

Adjustment Tire Circumference

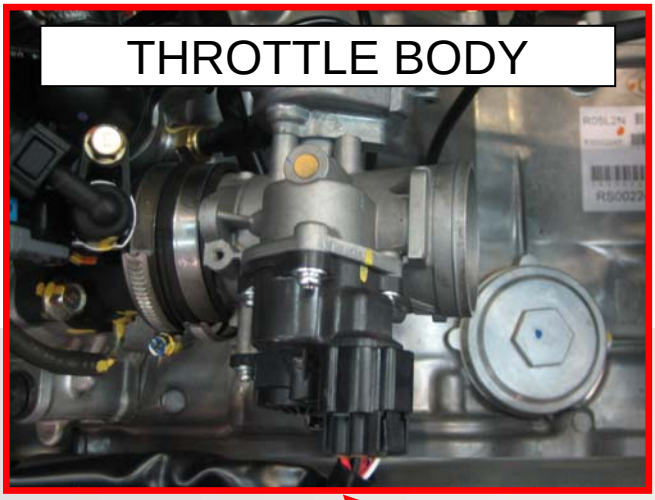
ADJUSTMENT FOR TIRE CIRCUMFERENCE	
	Turn off the main switch 
	Dismantle the connector of speedometer
	Turn on the main switch 
	Press the two buttons at the same time

Adjustment Tire Circumference

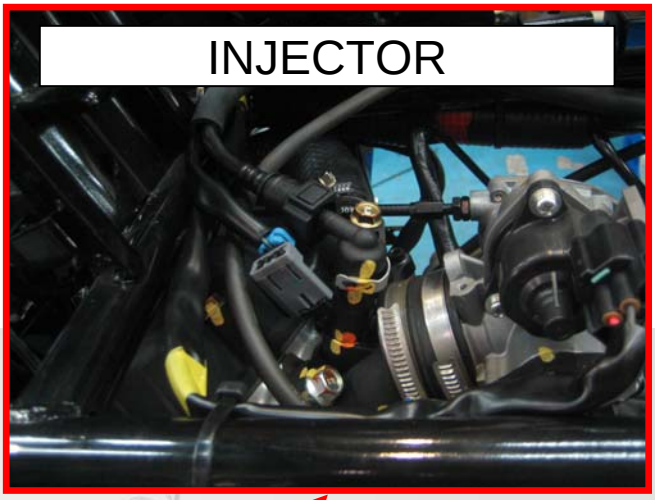
ADJUSTMENT FOR TIRE CIRCUMFERENCE	
	Install the connector of speedometer
	Release the two button at the same time while install the connector of speedometer, then show the three-figure number (The Tire Circumference)
	A：shift the flashing position of number B：increase the flashing number On Road：556 / Off Road：646
	Press and release the two Buttons at the same time, then the speedometer will auto restart to normal function

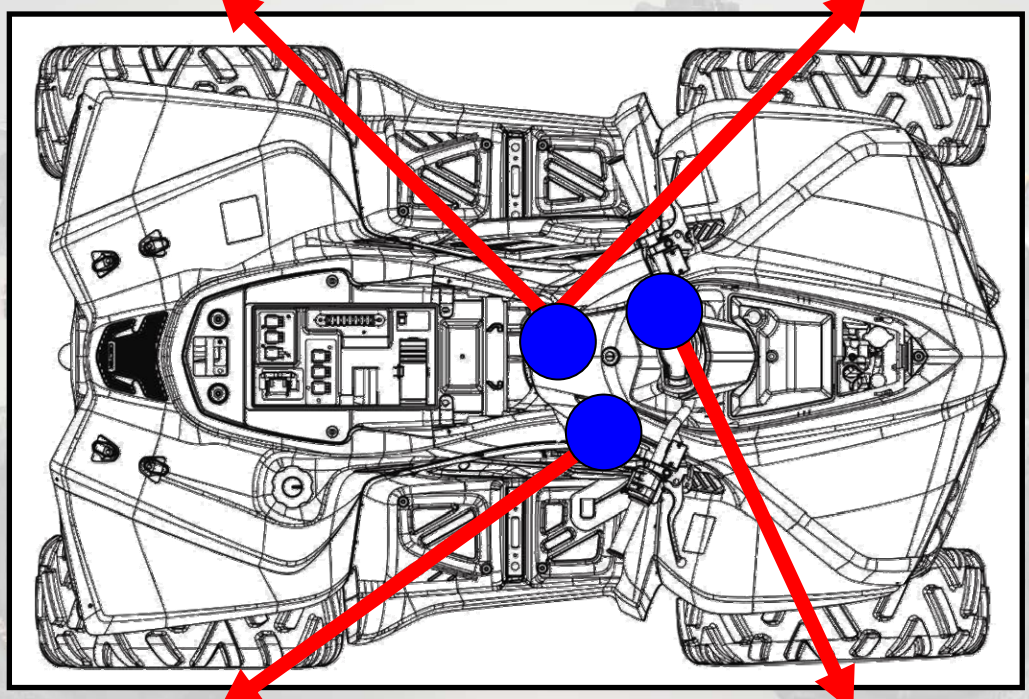
Injection Parts Position (1)

THROTTLE BODY

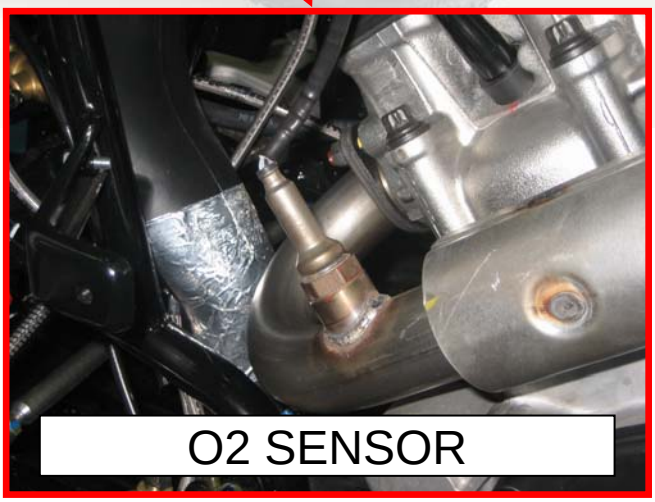


INJECTOR





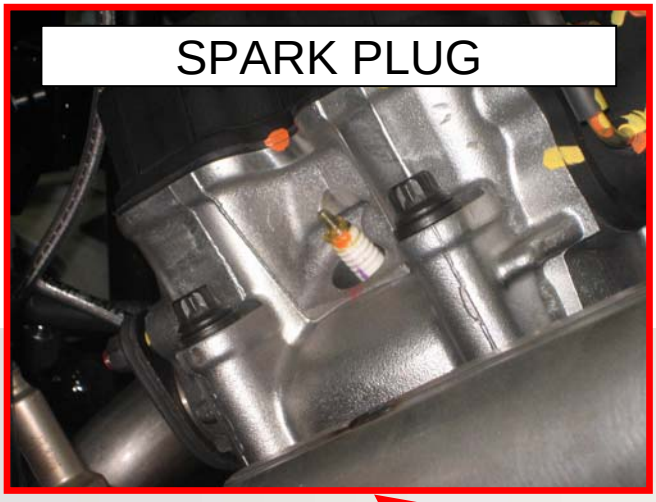
ECU (ECM)

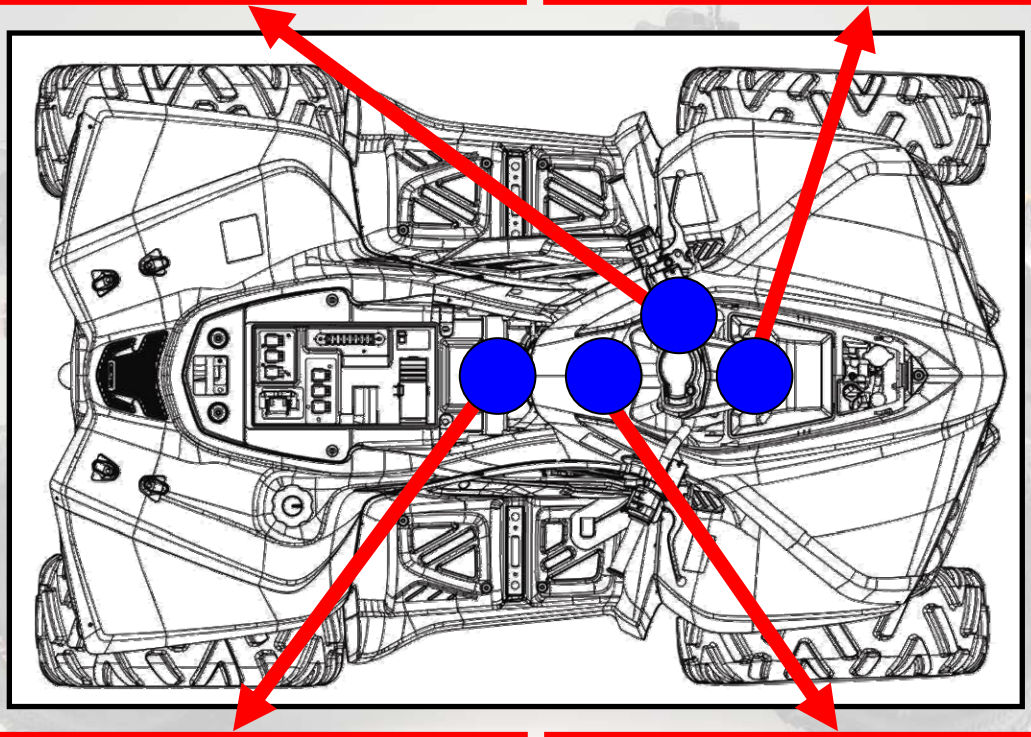


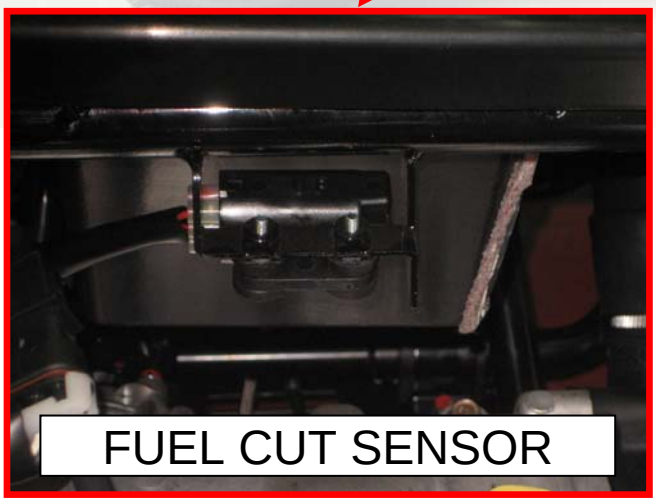
O2 SENSOR

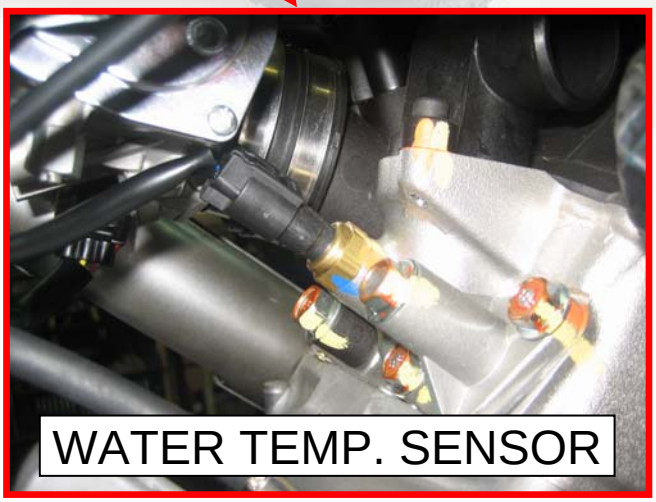
V

Injection Parts Position (2)



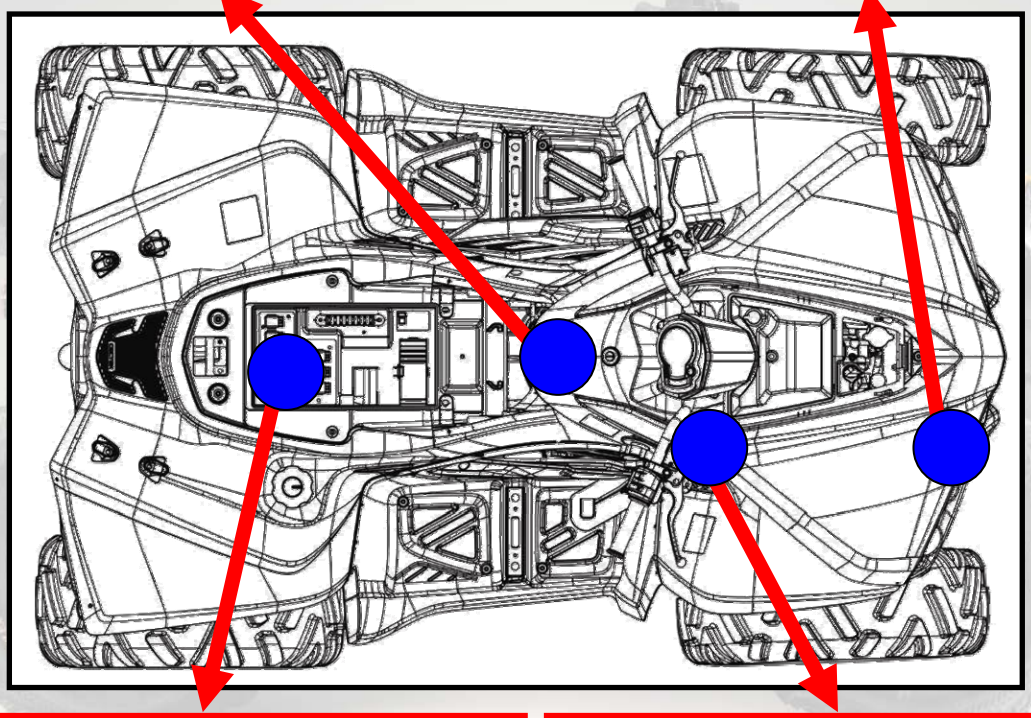


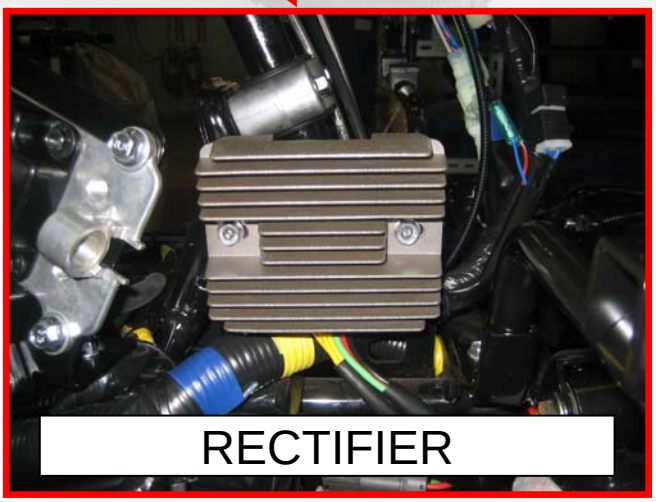




V

Electric Parts Position



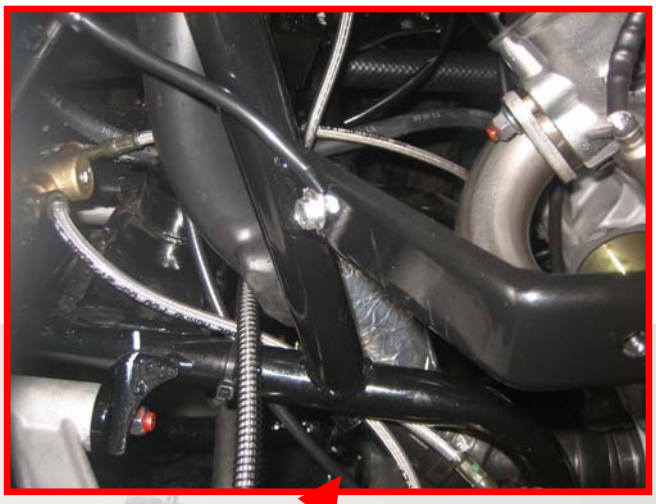


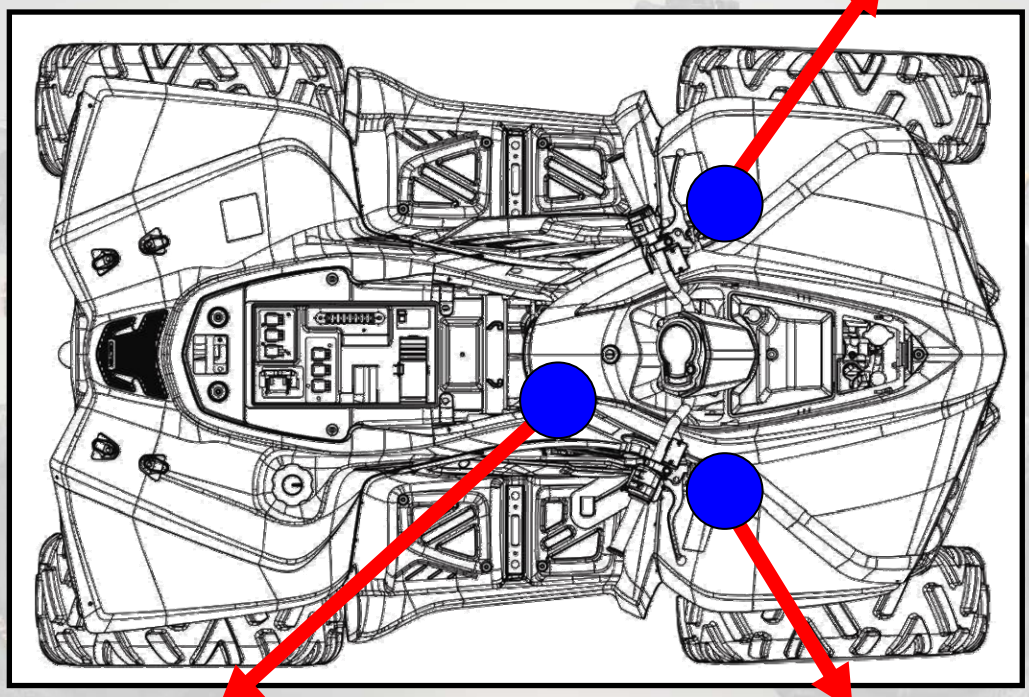
V

Ground Wire Position

Maintenance Step

1.Dismantle the wire
2.Use the sand-paper to clean the position
3.Use the sand-paper to clean the ground wire
4.Lay the grease on the position and wire





MAINTENANCE

Regular Maintenance table

ITEM	300km	1500km	3000km	6000km
ENGINE				
Engine Oil	R	R	R	R
Engine Oil Filter	R	R	R	R
Valve Adjustment	I		I	
Coolant Water	I		I	R
CVT Drive Belt		I	R	
FUEL				
Air Filter		C	R	R
Throttle Body	I	I	I	I
ELECTRICAL				
Spark plug	I	I	R	R
Battery	I		I	
Control Switches	I	I	I	I
Lights	I	I	I	I
DRIVE				
Front Propeller	I	L / I	L / I	L / I
Rear Propeller	I	L / I	L / I	L / I
Steering	I		I	I
Differential Oil	R	I	I	R
Wheel Nut	I	I	I	I
BRAKE				
Brake System	I		I	I
Brake Pad	I	I	I	I
BODY				
A Arms	I	L / I	L / I	L / I
Absorbers		I		I

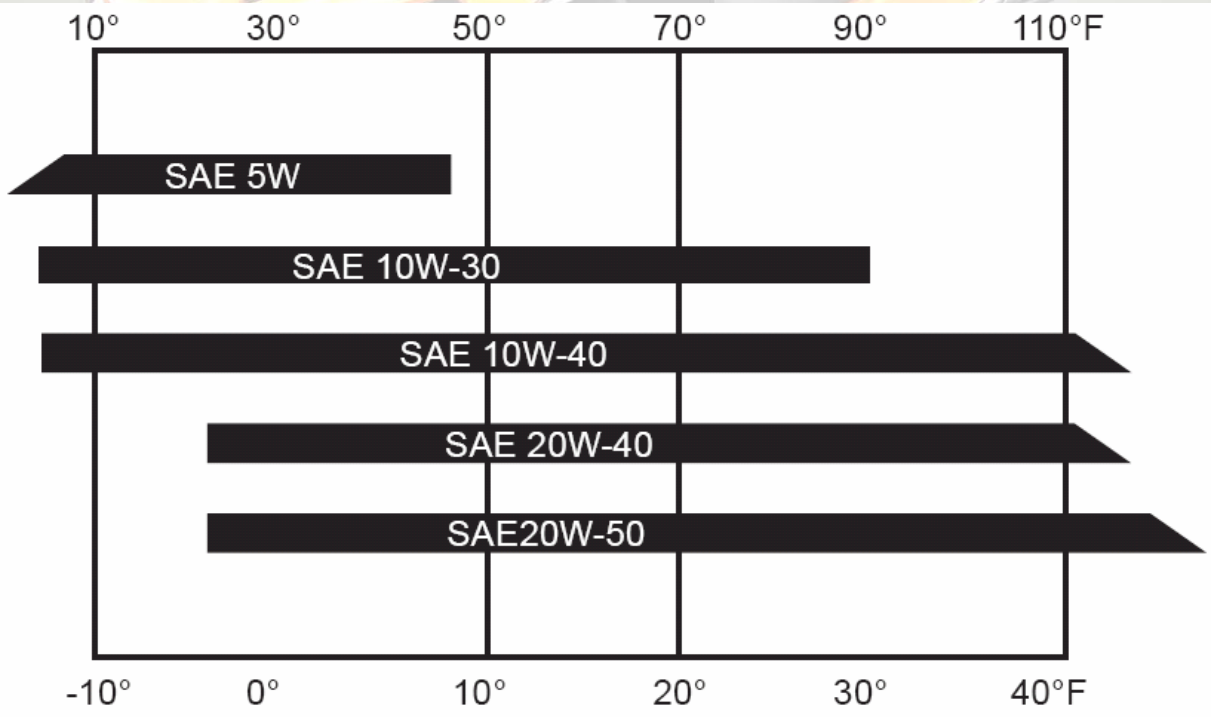
※ I：Inspect / C：Clean / L：Lubricate / R：Replace

Engine Oil Type

The Engine Original Oil Type：10w / 40

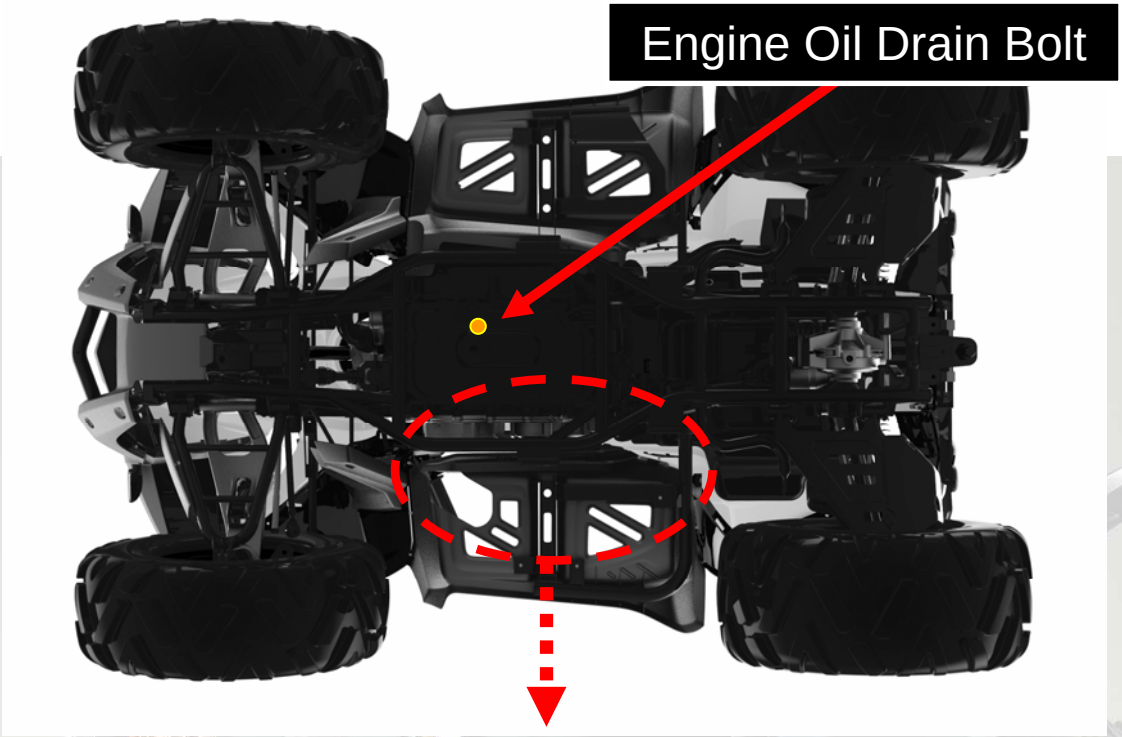
※The viscosity of oil should follow the temperature range of your area according to below chart.

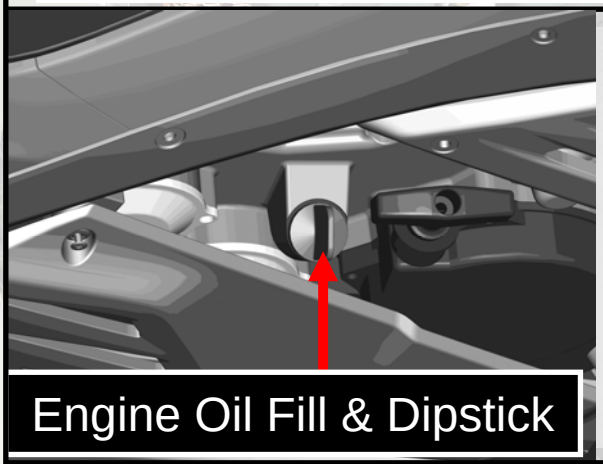
※Recommended engine oil classification API service SJ type or higher

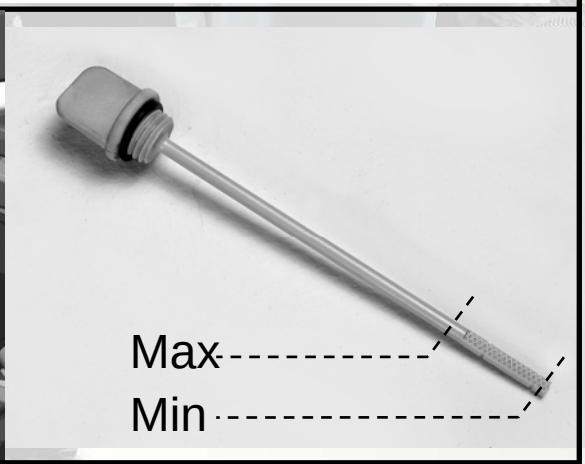


Total Engine Oil Capacity (with filter)：3500cc

Engine Oil Type







※The Engine Oil Drain Bolt Torque = 20 Nm

※Put The Vehicle On The Flatland.
Make Sure The Oil Level Between Max and Min Level Of Dipstick, While Engine Is Cold.

Differential Oil Type

The Front and Rear Differential Gear
Original Oil Type：PENNZOIL 80w / 90

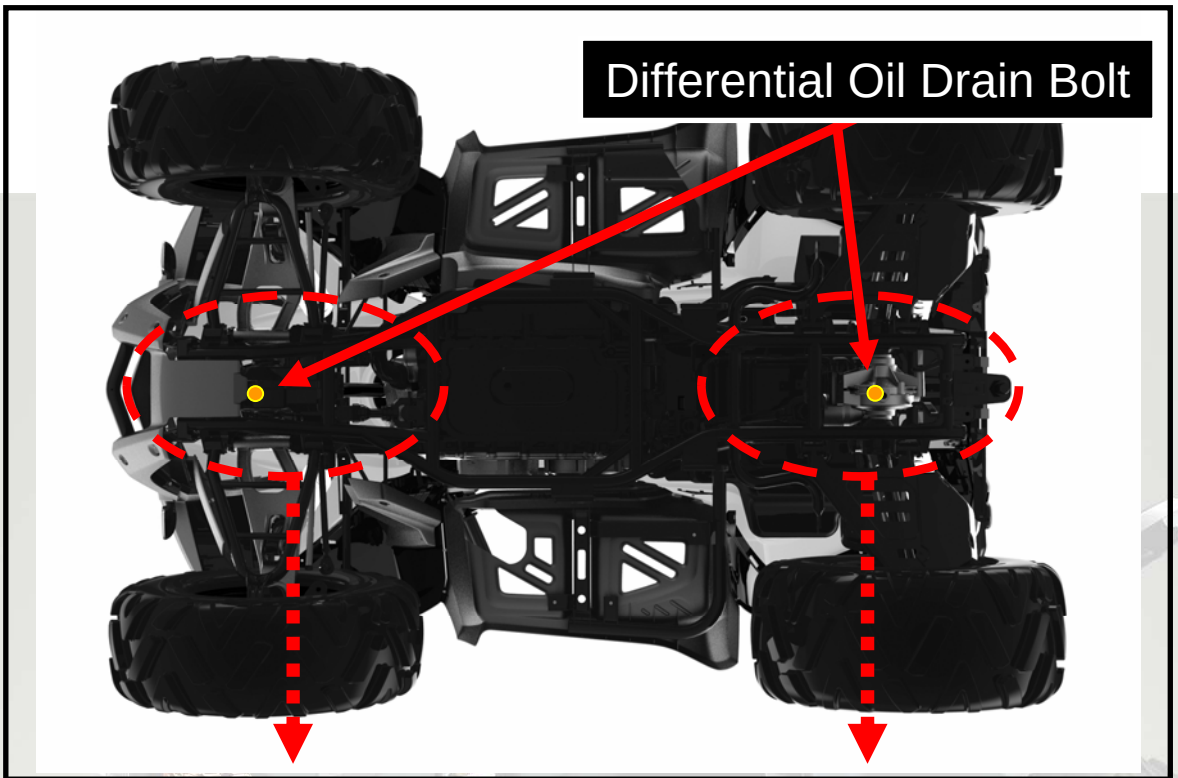
※The approved oil：
PENNZOIL 4096 80w / 90

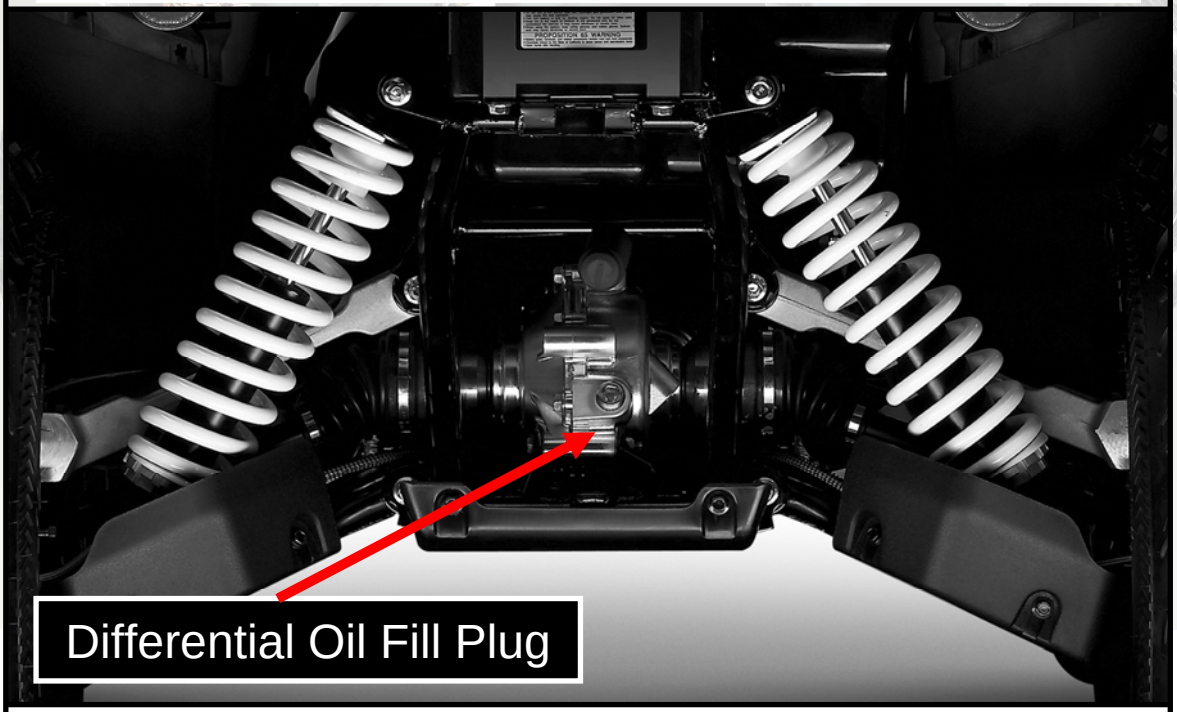
SAE GRADE	80W-90
API SERVICE	GL-5
GRAVITY,API	26
VISCOSITY@40℃, cSt	150
VISCOSITY@100℃, cSt	14.5
VISCOSITY INDEX	95
POUR POINT, ℃	-26
FLASH POINT, ℃	204
COLOR	5

※Use a SAE 80w / 90 hypoid oil on API classification GL-5 to fill the differential.

Total Differential Oil Capacity：325 ± 20cc

Differential Oil Type

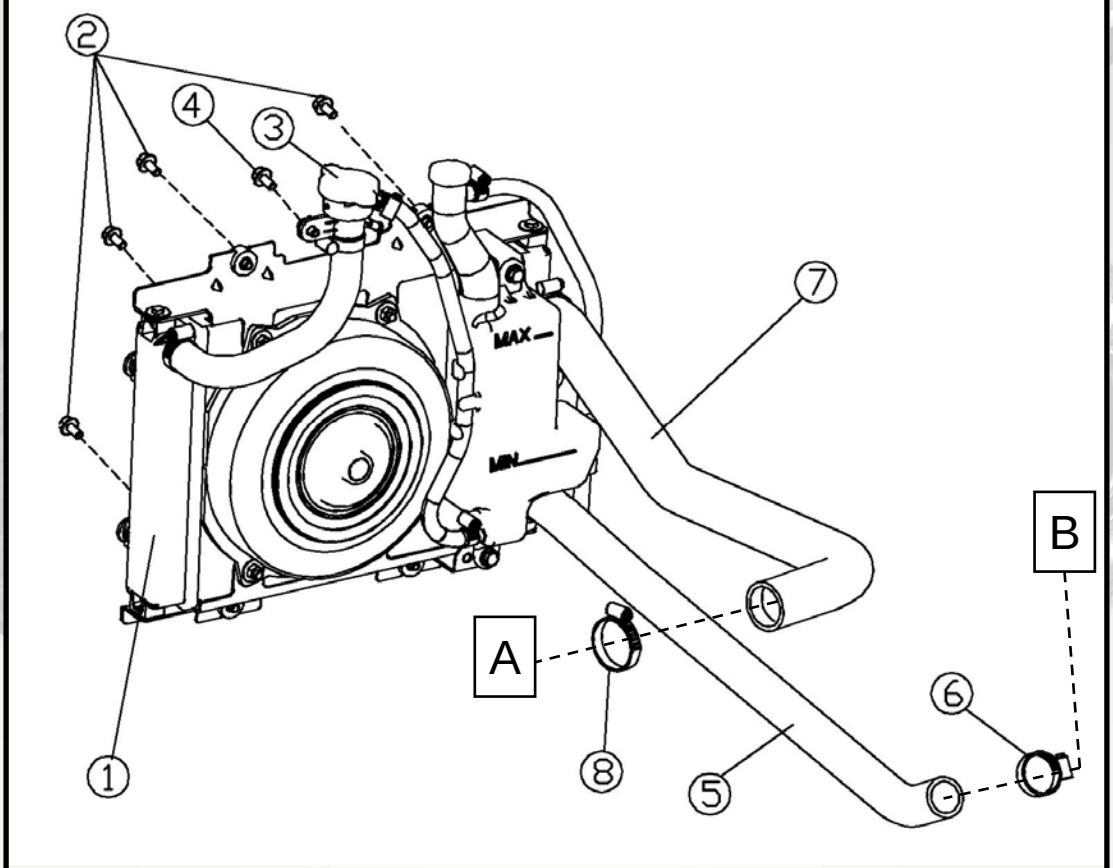




※The Differential Oil Drain Bolt Torque = 40 Nm

Coolant Type

THE RADIATOR		
N0.	PART NAME	PART NO.
1.	RADIATOR ASSY.	60046001
2.	BOLT	BFH060200884
3.	CAP ASSY.	60046002
4.	BOLT	BFH060120882
5.	HOSE, RADIATOR OUTLET	60040005
6.	CLIP	CC02003209
7.	HOSE, RADIATOR INLET	60040004
8.	CLIP	CC02504009



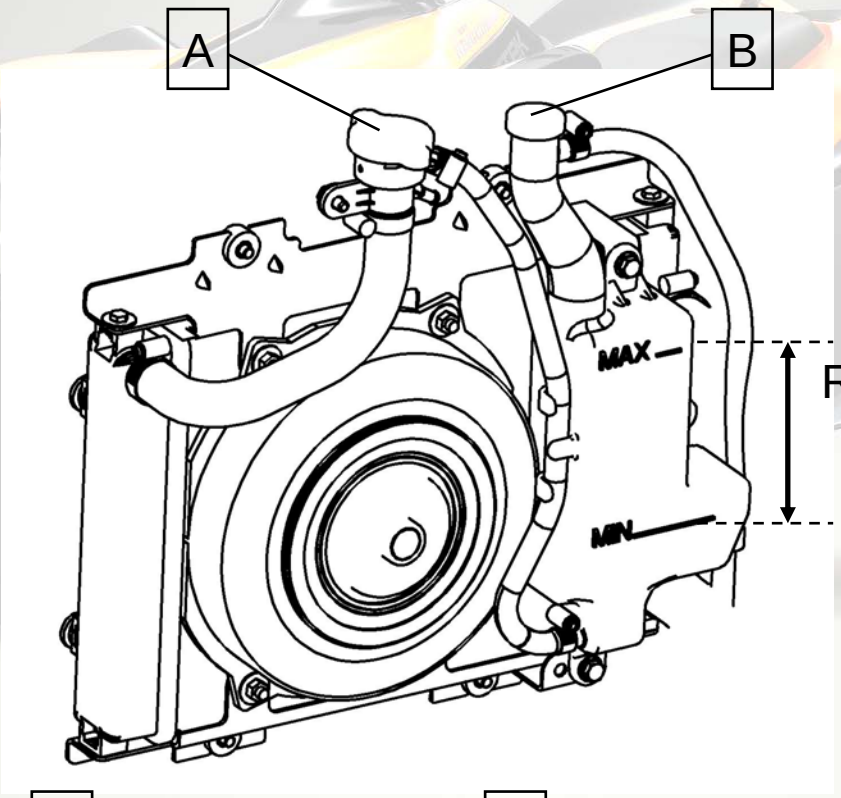
A Connect to Thermostat Cover

B Connect to Water Pump Cover

Coolant Type

The Coolant type：Ratio 50:50
(50%water / 50%antifreeze)

Required engine coolant solution capacity	
Total capacity	3550c.c.
Engine Coolant	1775c.c.
Water	1775c.c.



A Radiator Cap　　B Reservoir Tank Cap

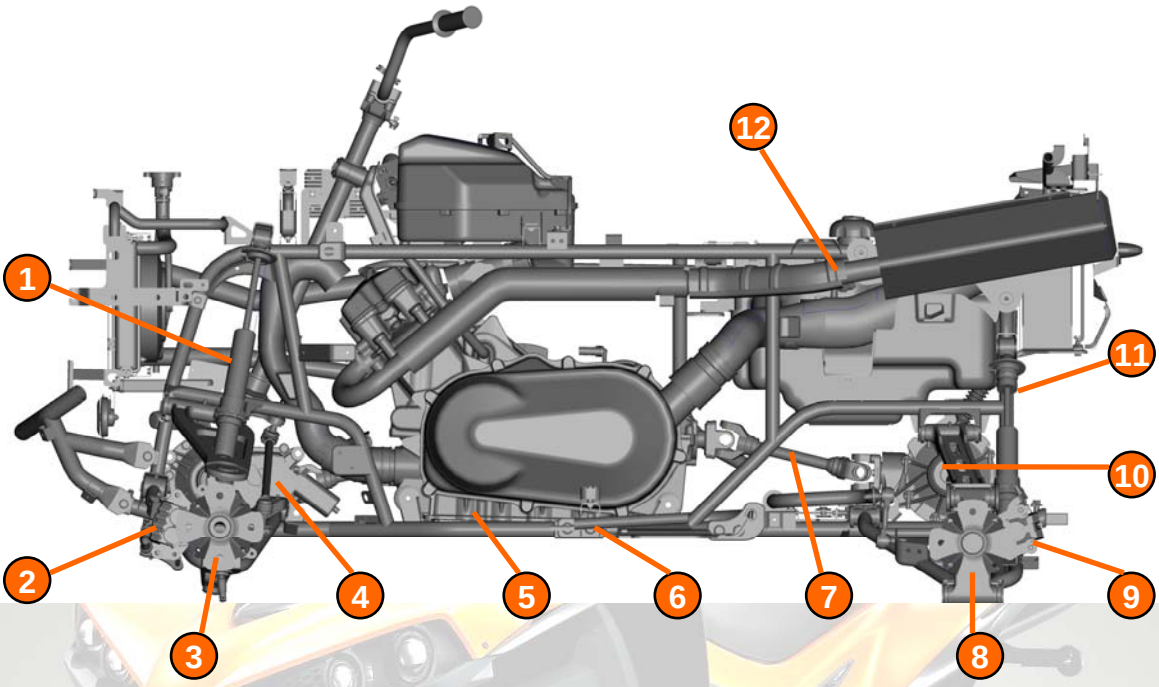
※Make Sure The Coolant Between Max And Min Level Of Reservoir Tank, While Engine is Cold.

VI

Engine Torque Table

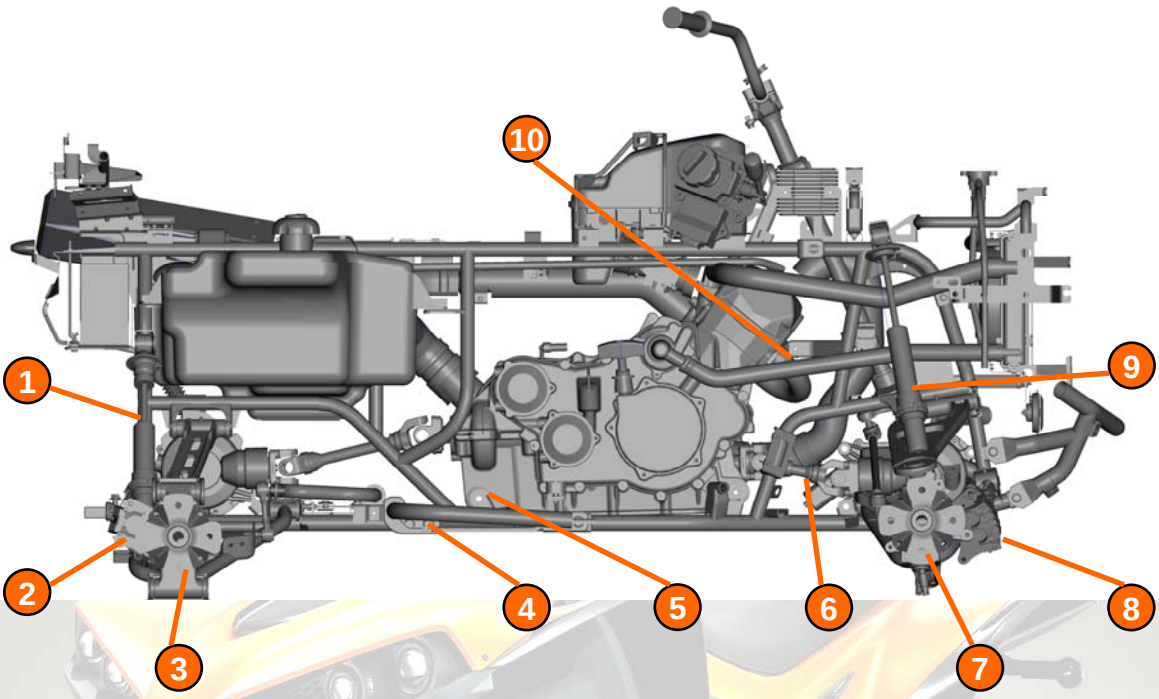
ITEM	POSITION	TORQUE
Chain Sprocket	Ⅱ - 28	250Nm
Lay Shaft Flat Head	Ⅱ - 31	9Nm
Rear Drive Shaft	Ⅱ - 32	20Nm
Oil Release Valve	Ⅱ - 39	10Nm
Rod	Ⅱ - 45	20Nm + 90°+ 90°
Engine Block (M10)	Ⅱ - 47	35Nm + 90 °
Engine Block (M8)	Ⅱ - 47	20Nm
Engine Block (M6)	Ⅱ - 48	10Nm
Shift Drum Plate	Ⅱ - 47	10Nm
Shift Drum Cover	Ⅱ - 48	10Nm
Main Circuit	Ⅱ - 48	20Nm
Balancer Plate	Ⅱ - 49	20Nm
Oil Pump	Ⅱ - 50	10Nm
Water Pump Gear	Ⅱ - 50	10Nm
Chain Guide	Ⅱ - 50	10Nm
Cylinder Head (M10)	Ⅱ - 52	35Nm + 90°+ 90°
Cylinder Head (M6)	Ⅱ - 52	10Nm
Tensioner	Ⅱ - 54	10Nm
Discompressor	Ⅱ - 54	5Nm
Thermostat	Ⅱ - 54	10Nm
Cylinder Head Cover	Ⅱ - 55	10Nm
Spark Plug	Ⅱ - 55	12Nm
Alternator	Ⅱ - 55	200Nm
Accessary Cover	Ⅱ - 56	10Nm
Drive Shaft Seal Cover	Ⅱ - 56	10Nm
Drive Yoke	Ⅱ - 57	20Nm
Balancer Cover	Ⅱ - 57	10Nm
Oil Sump	Ⅱ - 58	10Nm
CVT Drive Pulley	Ⅱ - 58	120Nm
CVT Driven Pulley	Ⅱ - 58	45Nm
CVT Cover	Ⅱ - 59	10Nm

Chassis Torque Check



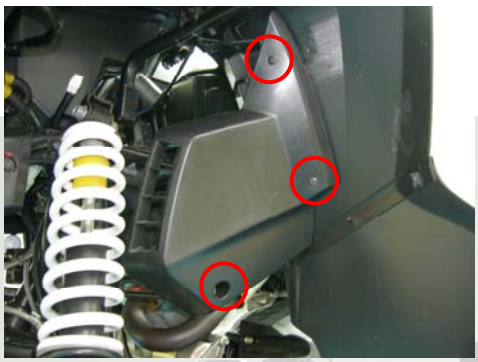
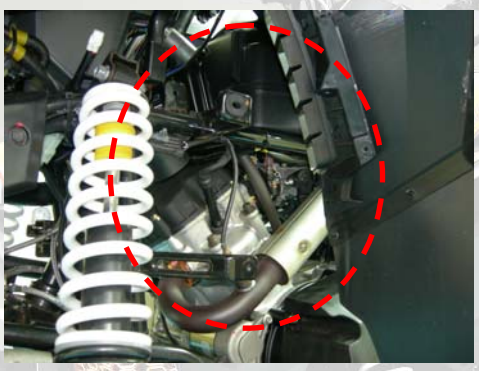
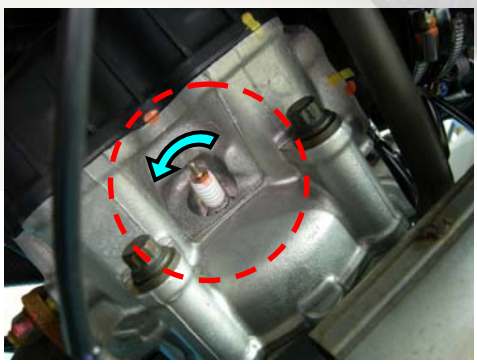
ITEM	TORQUE
1.LHF Suspension Bolts x 2	70 N-m
2.LHF Caliper Bolts x 2	25 N-m
3.LHF Wheel Rim Nuts x 4	60 N-m
4.Front Differential Bolts x 2	40 N-m
5.LHS Engine Bolts x 2	45 N-m
6.LHS Footrest Bolts x 4	40 N-m
7.Rear Propeller Shaft Bolts x 8	25 N-m
8.LHR Wheel Rim Nuts x 4	60 N-m
9.LHR Caliper Bolts x 2	25 N-m
10.Rear Differential Bolts x 3	40 N-m
11.LHR Suspension Bolts x 2	70 N-m
12.Rear Muffler Bolts x 2	20 N-m

Chassis Torque Check

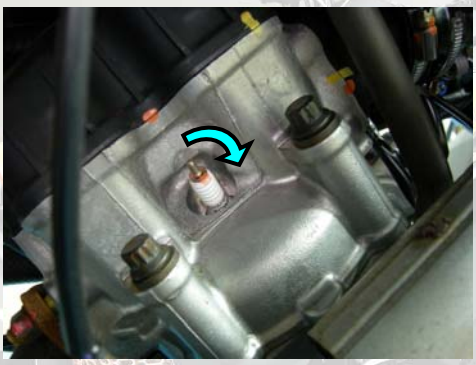


ITEM	TORQUE
1.RHR Suspension Bolts x 2	70 N-m
2.RHR Caliper Bolts x 2	25 N-m
3.RHR Wheel Rim Nuts x 4	60 N-m
4.RHS Footrest Bolts x 4	40 N-m
5.RHS Engine Bolts x 2	45 N-m
6.Front Propeller Shaft Bolts x 8	25 N-m
7.RHF Wheel Rim Nuts x 4	60 N-m
8.RHF Caliper Bolts x 2	25 N-m
9.RHF Suspension Bolts x 2	70 N-m
10.Front Muffler Bolts x 2	20 N-m

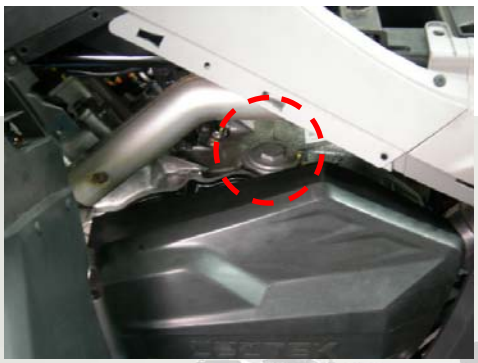
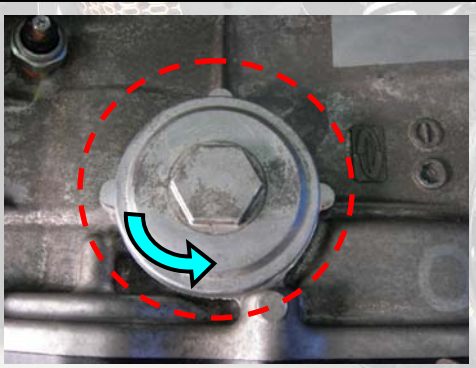
MAINTENANCE-Spark Plug

SPARK PLUG EXCHANGE	
	Dismantle the screws and bolt of LHS upper mudflap
	Then remove the LHS upper mudflap
	Pull out the spark plug hat
	Clean up around the spark plug, then dismantle the spark plug

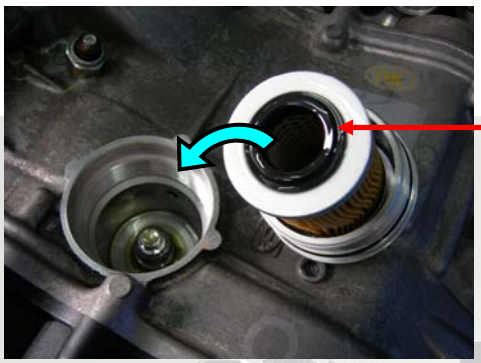
MAINTENANCE-Spark Plug

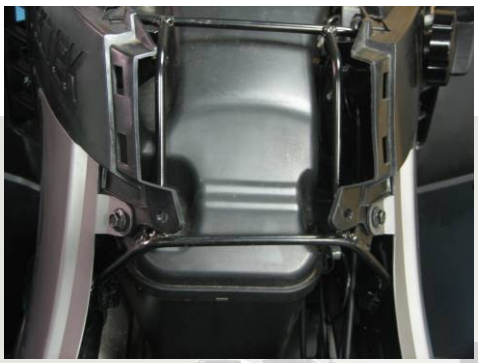
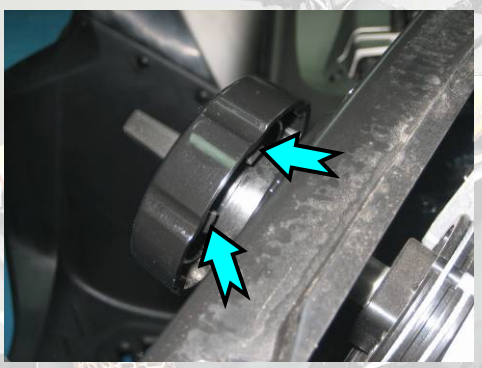
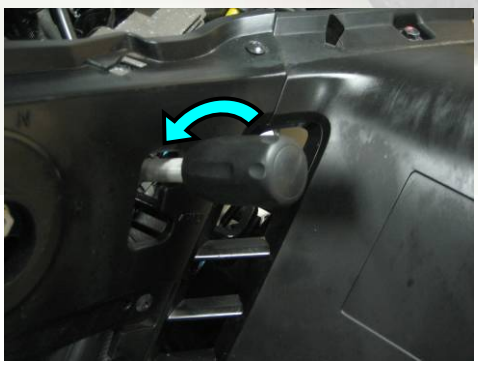
SPARK PLUG EXCHANGE	
	The spark plug ※Type：Champion PRG7C ※ Gap：0.6~0.7mm
	Assemble The spark plug ※Torque 12N-m

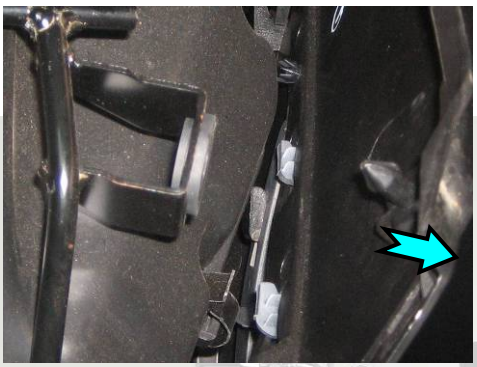
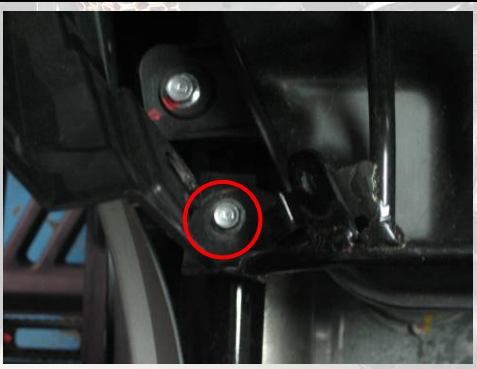
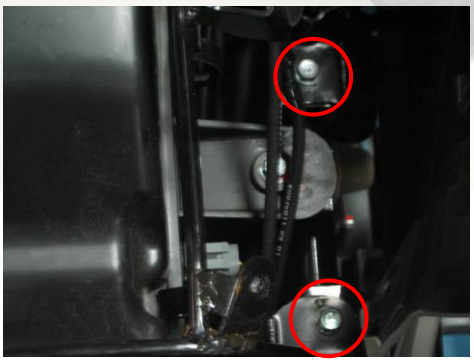
VI

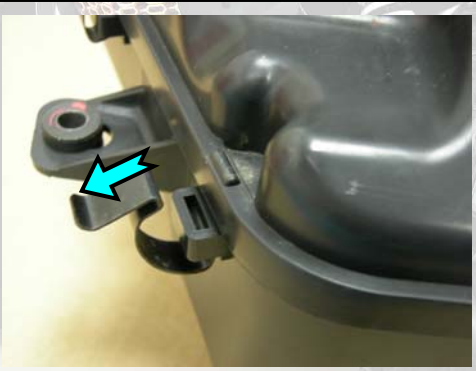
OIL FILTER EXCHANGE	
	From the LHS of vehicle, after dismantle the LHS engine cover
	Or from the RHS of vehicle
	Clean up around the oil filter cover to avoid any dirt, then dismantle the cover
	Pull out the oil filter, then clean the old oil inside

MAINTENANCE-Oil Filter

OIL FILTER EXCHANGE	
	Assemble the new oil filter, use some oil lubricate the front rubber of filter
	Push the oil filter to end, then add some oil to the filter
	Before assembly the cover, lubricate the O-ring
	Tighten the cover to end

AIR FILTER EXCHANGE	
	Dismantle 1.The air cleaner cover 2.The front deck 3.The front cover
	Push the revolve lever from the cover inside
	Dismantle the center bolt from the revolve lever
	Screw counterclockwise the shift bar (2/4WD) of the rod

AIR FILTER EXCHANGE	
	Release the RHS tenon
	Release the LHS tenon
	Dismantle the LHS bolt of seat holder
	Dismantle the RHS bolts of seat holder

AIR FILTER EXCHANGE	
	The seat holder
	Release the clips of cover, then remove the air cleaner cover
	Pull out to open the clip
	Change the air filter

SPECIAL TOOLS

TOOL PHOTO	TOOL NUMBER & NAME
	991000001 EMS DIAGNOSTIC KIT ASSY. ※Include：991000002 991000003 991000004
	991000002 EMS DIAGNOSTIC SOFTWARE
	991000003 EMS DIAGNOSTIC CABLE
	991000004 EMS DIAGNOSTIC USB ADAPTOR

SPECIAL TOOLS

TOOL PHOTO	TOOL NUMBER & NAME
	991000005 REMOVER – ALTERNATOR ROTOR ASSY. ※Include：991000006 991000007 991000008
	991000006 CRANKSHAFT PROTECTOR
	991000007 HOLDER – ALTERNATOR REMOVER
	991000008 PULLER – CVT & ALTERNATOR M12＊1.5

SPECIAL TOOLS

TOOL PHOTO	TOOL NUMBER & NAME
	992000001 SPANNER – FUEL RETAINER
	992000002 REWIND STARTER STOPPER
	888.4002.653.B1 CASE ASSEMBLY GLUE (1207F) Brand：ThreeBond Type：1207F (Liquid Gasket Black Silicone Type) Volume：333ml
	888.4002.670.B BOLT GLUE (T272) Brand：Loctie Type：272 Volume：250ml

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